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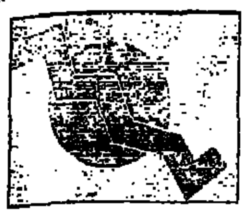

Corporate Japan
Companies must change to restore economy's health
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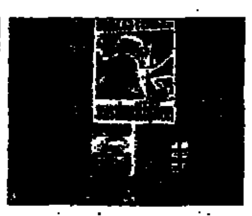

German election
More Turks able to vote, but number is still too small
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Working abroad
Executives no longer keen on an overseas posting
John Hunt, Page 22

Digital broadcasting
Multimedia maelstrom for home and business
Survey

WORLD NEWS

China hits back after India labels Beijing as main threat to security

China denounced India's defence minister in unusually strong language yesterday after he had described Beijing as India's greatest *security threat – in providing* missiles to Pakistan and stockpiling nuclear weapons in Tibet. Relations between Asia's two most populous powers will be an issue for US diplomacy ahead of planned visits by US president Bill Clinton to Beijing in June and New Delhi later this year. **Page 14**

IMF fears crisis without US cash
International Monetary Fund managing director Michel Camdessus warned that the IMF could face the worst crisis in its 53-year history if the US Congress were to reject President Clinton's proposed $18bn contribution to replenish the Fund's resources. **Page 4**

Indonesian police fire on protesters
Indonesian riot police fired live rounds as well as rubber bullets in an unsuccessful attempt to quell looting and violent demonstrations in the city of Medan, said civil rights activists. Student protests and public unrest widened this week after President Suharto raised prices for fuel, transport and electricity. **Page 6; See Lex**

US to probe airline alliances
Patrick Murphy, US deputy assistant secretary for aviation, said the government would investigate the wave of alliances involving the country's six largest airlines, to ensure they did not reduce domestic competition. **Page 8**

Ulster beef gets clean bill
European Commission veterinary inspectors gave a clean bill of health to two meat factories in Northern Ireland. The action could lead within weeks to the first exports of UK beef in more than two years. **Page 9**

Danish strike talks collapse
Talks aimed at ending a week-old strike that has paralysed Danish industry broke down with union rejection of a settlement plan from the Employers' Association, intensifying speculation that the government would intervene. **Page 3**

Vietnam names bank governor
Vietnam's first deputy prime minister, Nguyen Tan Dung, was picked to be governor of the country's central State Bank. **Page 6**

Greece lets Olympic fly solo
Greece's socialist government distanced itself from the crisis at Olympic Airways, the state carrier, which is making a last-ditch effort to restructure. **Page 3**

Westralia ship fire kills four
Four sailors were killed and five injured by an explosion and fire in the engine room of Australia's largest naval ship, HMAS Westralia, during trials eight miles off the western coast.

China looks to euro reserves
China signalled its intention to convert gradually a proportion of its huge foreign currency reserves into euros, once it has judged the new European currency's strength and stability. The European Union is China's fourth-largest trading partner. **Page 6; Editorial Comment, Page 13**

New Caledonia accord signed
French prime minister Lionel Jospin signed an agreement on the future of New Caledonia, the nickel-rich Pacific archipelago that is one of France's most remote possessions.

BUSINESS NEWS

US 'Goldilocks' economy set to continue say managers

US economic growth will accelerate in the second *half* of 1998 and the pace of price increases will slow further, says the *National Association of Purchasing Management.* Members expected overall business conditions to continue to improve while the strong dollar and the Asian crisis would dampen exports. **Page 14**

Artémis, the holding company of French businessman François Pinault, is set to become the biggest shareholder in Christies International, buying 29 per cent of the auctioneer from Bahamas-based billionaire Joseph Lewis. **Page 15; Comment, Page 20**

Liffe, the London International Financial Futures and Options Exchange, will today announce plans to launch the first 10-year interest rate futures contract to be denominated in euros. **Page 15**

Italy is accelerating its privatisation programme. Shares in oil and gas group Eni, Banca Nazionale del Lavoro, Alitalia and Aeroporti di Roma will become available later this year. **Page 16.**

Pentair, a Minnesota-based diversified company, became the second US group to enter the bidding for Vero, the UK-based electronics and telecommunications industries supplier. **Page 20**

The world's biggest iron ore producer, Companhia Vale do Rio Doce, is close to announcing the sale of its shareholdings in the Brazilian steel industry. **Page 15**

Taiwan is likely to overtake Japan as the world's biggest producer of notebook computers this year says I J Lee, president of Twinhead International. **Page 17**

Grasim, industrial flagship of India's A V Birla group, reported annual pre-tax profits 13 per cent lower at Rs2.6bn ($65m). **Page 17**

MeritaNordbanken, the Swedish-Finnish bank, overcame flat net interest income to post a 67 per cent leap in first-quarter pre-tax profits. **Page 16**

Accountancy's senior regulator is to hear complaints against Coopers & Lybrand over its role as auditor to the empire of media magnate Robert Maxwell. **Page 10**

The Australian state of New South Wales released indicative pricing details for the sale of its betting agency, Tab, expected to raise about A$1bn (US$644m). **Page 17**

FKI moved to strengthen its position in the US door and window hardware market with the $71.5m acquisition of the Allen-Stevens Group. **Page 19**

British Petroleum is looking at possible investments in Iran, believing that the US may be starting to change its attitude towards Tehran. **Page 6**

Renault VI and Iveco, the truck and bus units of France's Renault and Italy's Fiat, are poised to announce a joint bus development. **Page 16**

Prices in Venezuela surged by 3.4 per cent in April compared with the previous month. **Page 9**

World Equity Markets
The latest trends and data from more than 50 national markets at a glance
Page 35

Arafat and Netanyahu invited to talks in US

Albright says Washington meeting is conditional on settling 'interim issues'

By David Gardner, Middle East Editor, in London

The US has invited Israel and the Palestinians to talks in Washington next week, after failing to get Benjamin Netanyahu, the Israeli prime minister, to agree to a package of proposals to save the Middle East peace process.

After two days of intensive and separate talks in London hotels with Mr Netanyahu and Yassir Arafat, the Palestinian leader, Madeleine Albright, US secretary of state, said the invitation was conditional on the two sides agreeing on "interim issues".

These centre on the Israeli leader's commitment to withdraw troops from the West Bank and hand over parts of its territory to the Palestinians, before entering talks on a final peace deal. "We have a strategic opportunity to put the peace process back on track, and we cannot afford to lose it," Mrs Albright said.

The Washington talks would aim to prepare for a final push on the Oslo peace accords, which Israel says it wants. But Mr Netanyahu told Mrs Albright that first he needs backing from his rightwing nationalist cabinet on the US interim proposals, to which Mr Arafat agreed in February.

The US package calls for a phased Israeli withdrawal from 13 per cent of the West Bank – far below the more than 30 per cent Mr Arafat had expected at this stage – in exchange for increased Palestinian efforts to crack down on Islamist terrorists.

It would also commit Israel to the further "redeployment" Mr Netanyahu agreed to in January 1997, and require his government to stop expanding Jewish settlements in Arab east Jerusalem and the West Bank.

Mr Netanyahu originally offered only 9 per cent, claiming more would undermine Israel's security. But Western diplomats say that after three rounds of talks with Mrs Albright he moved towards the American figure, and agreed to the further withdrawal provided that Israel alone decided the "quantity and quality" of territory.

However, he is insisting there be no reference to the US demand for a "time-out" on building Jewish settlements. Instead, he is seeking a clause committing both sides to refrain from "unilateral acts". While this implies a halt to settlement building, it would require the Palestinians and their Arab allies to stop organising votes condemning Israel in the United Nations, and require a pledge from Mr Arafat that he will not unilaterally declare a Palestinian state in a year's time if no final agreement is reached.

Mr Arafat said he was willing to go to Washington but underlined that the US had given him assurances that it would stick to its original proposals, which it has still not made public.

The Israeli leader said there had been "significant progress", but as yet no agreement on troop withdrawals or the handover of land. "If I'm satisfied Israel's security is protected, then we can close the gaps."

Tony Blair, the British prime minister who hosted the talks, said they had ended neither in a breakthrough nor in a breakdown. "I certainly think we are into the final chapter, and people have got to realise that crunch time is coming," he said.

Egypt business, Page 4
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Madeleine Albright, US secretary of state, yesterday after talks with Benjamin Netanyahu and Yassir Arafat: "We have a strategic opportunity to put the peace process back on track, and we cannot afford to lose it." Picture: Reuters

D-Mark hits three-month highs

Analysts believe Bundesbank will raise rates soon to prove fiscal policy remains tight

By Simon Kuper

The D-Mark hit three-month highs against the dollar and pound yesterday, shaking off last weekend's spat over the presidency of the European Central Bank.

Nick Parsons, currency strategist at Paribas Capital Markets in London, said the D-Mark's three-year slide against the dollar was over, thanks to the recovery in continental Europe and the fall of the last hurdles to European economic and monetary union.

The D-Mark jumped 2.7 pfennigs against the pound yesterday to close in London at DM2.941 and rose 0.9 pfennigs against the dollar to DM1.773.

Many economists had forecast the German currency would suffer from the deal struck at the EU's Brussels summit to let Wim Duisenberg run the ECB and then stand down midway through his eight-year term in favour of Jean-Claude Trichet, the French candidate. The consensus was that the deal hurt the credibility of the ECB by letting it be seen as prone to political influence.

However, Paul Meggyesi, senior currency economist at Deutsche Morgan Grenfell in London, said the horsetrading over the ECB presidency had "reflected rather worse on the political protagonists than it has on the European currencies".

The summit, although dominated by the split, helped the D-Mark by sorting out some of the last details of Emu.

The contours of an Emu with 11 founder members starting on January 1, 1999 are now clear. Investors are leaving the dollar, Swiss franc and pound - former safe havens from Emu - and returning to D-Marks.

Also supporting the D-Mark is the growing belief in the market that the Bundesbank will raise interest rates soon. Many strategists say the ECB row itself has boosted prospects of a rate increase. They argue that the bank will want to prove to sceptics that European monetary policy remains tight.

Some saw yesterday's 50-basis-point rise in Danish rates as a foreboding of further rate increases in northern Europe, even though Denmark will not be joining Emu and can therefore set its monetary policy in isolation.

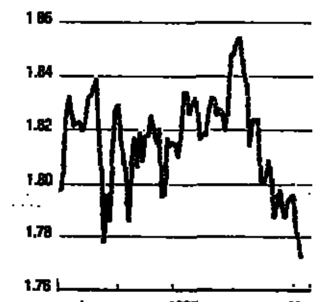
Adding to prospects of higher European rates, strategists pointed out that most of the members of the ECB board chosen this weekend, including Mr Trichet, are interest rate hawks. Goldman Sachs said: "We expect a 25-basis-point rise in the Bundesbank repo rate by July at the latest."

By contrast, few strategists expect the Federal Reserve, the US central bank, or the Bank of England to raise interest rates soon, given that US inflation is almost non-existent and the UK economy is slowing down.

The Bank of England's monetary policy committee starts its two-day meeting today.

Bundesbank doubts, Page 2

Dollar
Against the D-Mark (DM per $)



Source: Datastream/ICV

Yeltsin boosts role of prime minister

By Carlotta Gall in Moscow

President Boris Yeltsin yesterday boosted the powers of Sergei Kiriyenko, his new prime minister, allowing him to take more decisions directly by bypassing the presidential administration.

After a meeting with Mr Kiriyenko in the Kremlin, Mr Yeltsin said he had signed a decree simplifying the procedure for issuing prime ministerial resolutions. It grants the prime minister "more rights and more responsibility", he said.

Previously, all government resolutions had to go through the bureaucracy of the presidential apparatus. "The long path along which a document would wind its way was two kilometres," Mr Yeltsin said.

Now it will be simpler, essentially giving more power to Mr Kiriyenko. "[He] will sign a resolution and that's it," said Mr Yeltsin. Mr Kiriyenko would have to bear greater responsibility for his actions before the president and the country, he added.

The move gives Mr Kiriyenko, 35 – plucked from obscurity last month after less than a year in government – a freer hand in day-to-day decisions than Victor Chernomyrdin, his predecessor as prime minister.

Mr Yeltsin's main aim seems to be to tackle the sluggish bureaucracy that has slowed every reform initiative to date rather than relinquish the formidable powers of the president and his apparatus. Key decisions, particularly those relating to economic policy, will be always be cleared with the president.

The "opportunities the Kiriyenko government has received are a significant advance on those of the previous government", Sergei Yastrzhembsky, the presidential spokesman, said.

Analysts were cautious in their appraisal of Mr Yeltsin's latest move. "The government has gained a little more freedom. On the operative level it will be easier," said Andrei Piontkovsky, director of the Moscow Centre for Strategic Studies.

He added that it was only the latest development in a perpetual jockeying for pre-eminence between the government and presidential administration.

Mr Yeltsin announced the decree as part of his plans for a new streamlined government. "The old government was like a broken staircase including the prime minister, his deputies, ministries and departments," he said. "Now there will be no departments ... There will be fewer ministries and the government administration will be halved."

Mr Yeltsin dismissed Mr Chernomyrdin and his cabinet on March 23 for losing impetus in pushing through economic reforms. He has replaced Mr Chernomyrdin's team with technocrats, mostly young, and cut the number of deputy prime ministers from nine to three.

WORLD MARKETS

STOCK MARKET INDICES

New York Lunchtime		
Dow Jones Ind Av	9130.63	(-62.03)
NASDAQ Composite	1867.78	(-11.08)
Europe and Far East		
CAC40	3944.91	(-29.34)
DAX	5232.03	(-82.63)
FTSE 100	5958.5	(-23.8)
Nikkei	(closed)	
US Lunchtime RATES		
Federal Funds	5.25%	
3-mth Treas Bills: Yld	5.093%	
Long Bond	102¼	
Yield	5.958%	
OTHER RATES		
UK: 3-mo Interbank	7⅝%	(7⅝%)
UK: 10 yr Gilt	110.375	(110.828)
France: 10 yr OAT	103.59	(103.86)
Germany: 10 yr Bund	107.72	(107.47)
Japan: 10 yr JGB	110.39	(110.39)
NORTH SEA OIL (Argus)		
Brent Dated	$14.15	(14.6)

GOLD

New York: Comex		
June	$304.6	(305.4)
London:		
	$303.25	(305.95)

EXCHANGE RATES

Dollar		
New York Lunchtime		
£	1.66155	
DM	1.77025	
FFr	5.9345	
SFr	1.482	
Y	131.705	
London:		
£	1.6591	(1.6658)
DM	1.7728	(1.7815)
FFr	5.9435	(5.9734)
SFr	1.4835	(1.4897)
Y	131.74	(133.19)
Tokyo Close		Y (closed)
Sterling		
DM	2.9412	(2.9642)

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WORLD NEWS

EUROPE

Tietmeyer raises doubts on ECB deal

By Wolfgang Münchau in Frankfurt

Hans Tietmeyer, president of the German Bundesbank, last night broke his silence on the controversial compromise over the presidency of the European Central Bank, casting doubt over the credibility of the new single European currency in international financial markets.

Speaking at a bankers' dinner in Frankfurt, Mr Tietmeyer said: "Not everything that happened last weekend in Brussels contributed to *the necessary expectation* that the euro will be a really supranational and depoliticised currency."

Mr Tietmeyer's comments underline the irritation inside the Bundesbank about the deal, under which the Dutch banker Wim Duisenberg is appointed to a full eight-year term, but will *retire "voluntarily" after* approximately four years.

But Mr Tietmeyer stopped short of attacking all the elements of the agreement reached at the Brussels European Union summit. He said the choice of members of the ECB's six-strong executive board was "to be viewed favourably overall". In particular, German central bankers and economists welcomed the appointment of Otto Issing, the Bundesbank's chief economist, to a *full eight-year term.*

Senior German banking economists also yesterday signalled readiness to embrace the "time-sharing" agreement between Mr Duisenberg and Jean-Claude Trichet, governor of the Bank of France, who is to take over the presidency after Mr Duisenberg retires.

Hermann Remsperger, chief economist of BHF-Bank, said: "It may take some time to forget what happened last weekend, but *people will soon focus on the* real economic issues, the strong current account surplus and accelerating economic growth in the euro area."

Norbert Walter, chief economist of Deutsche Bank, defended the compromise as "sensible" and described criticism of the term-sharing deal as "unqualified gossip".

He said Germany was in part to blame for the debacle because of the way Mr Duisenberg's candidacy had originally been handled.

Meanwhile, analysts overwhelmingly agree that the board nominations will have no serious effect on the markets.

● The legal services department of the European Parliament is expected to present *an analysis of the ECB deal* to leading MEPs today, Michael Smith adds from Brussels.

The analysis was requested by the parliament's Socialist group and others and is expected it to show that the deal is in line with European law.

Chubais ally faces threat of prison

By Chrystia Freeland in Moscow

Russian prosecutors have charged Alfred Kokh, a former deputy prime minister, with embezzlement, raising the stakes in one of the country's highest-profile corruption scandals.

Mr Kokh, a close ally of Anatoly Chubais, the former finance minister, has been charged with misappropria*tion in a complicated real* estate deal through which he allegedly acquired an apartment in Moscow.

Moscow's deputy prosecutor said other former high-ranking members of the Chubais team would soon face criminal charges.

Analysts said the prosecution against Mr Kokh, who *faces a maximum* jail *term* of 10 years if he is convicted, was an escalation of the fierce battle between Russian political clans which has raged for nearly a year.

Mr Kokh now heads the Moscow-based Montes Auri investment company.

An official at the prosecutor's office said that because *of the charges Mr Kokh* had been barred from leaving the country, but a Moscow radio station reported that the ex-minister had already left Russia.

Mr Kokh played a key role *in Russia's privatisation* programme, rising to head the privatisation ministry last year. He was closely involved in the shares-for-loans sell-offs, a complicated privatisation scheme which allowed banks close to the Kremlin to snap up Russia's most coveted companies at bargain prices.

Last autumn, shortly after Mr Kokh's resignation from the government, the former minister was embroiled in a controversial publishing deal.

He and a group of other *officials, including Mr Chu*bais, received $90,000 each for contributing to a book about privatisation. The book has not yet been published.

The high fees and allegations that the publishing venture was funded by Oneximbank, a powerful financial group close to Mr *Chubais, badly damaged* the reformers' reputation in Russia.

Last week, a Moscow court rejected a *libel* suit brought by Mr Chubais against a journalist who said the publishing fee amounted to a disguised bribe.

"This is very serious threat to Kokh," said Andrei Piontkovsky, head of the Centre for Strategic Studies.

"This is the latest episode in the battle between Chubais and Berezovsky," he said, *in* a reference to Boris Berezovsky, the influential financier who won a government post last week.

Murder adds to Vatican's troubles

By James Blitz in Rome and William Hall in Zurich

Vatican officials were yesterday trying to establish the motive for the murder of the newly appointed head of the papal Swiss Guard and his wife.

The killings come at a time of growing doubts over the future of the guard, responsible for protecting popes for nearly 500 years.

The captain-general of the Guard, Alois Estermann, and his Venezuelan wife, Gladys Meza Romero, were murdered in their Vatican apartment late on Monday even*ing, apparently by a* lance-corporal in the guard, Cedric Tornay, who later killed himself.

Mr Estermann, who like all the guards was a Swiss national, had been appointed to his post only 10 hours before the shootings took place. He was well known in Italy as one of several *guards who attempted to* shield the Pope during the attempt on his life in 1981.

The official Vatican spokesman said yesterday that Tornay had been censured by Mr Estermann, at that time acting head of the Guard, on February 12, because of an "unjustifiable" absence from night duty.

The killing represents a *severe problem for the Vati*can, which spent more than six months looking for a new head of the Guard.

It has proved difficult to recruit the right calibre of young soldiers to work in what is seen as a low-paid job a long way from home.

In what is believed to be his last interview, with the Rome-based I-Media religious news agency, Mr Estermann acknowledged the problem. "It is partly explained by the rather difficult economic situation in Switzerland, but also by the fact that service to the Church is less attractive than it was a few years ago," he said.

The 100-strong Guard is *the world's smallest stand*ing army and dates from a time when Switzerland's main export was its mercenary fighting men, and the Vatican was not only a pastoral power, but a state which needed defending.

Soldiers must be at least 5ft 9in, unmarried and of "irreproachable character". Recently, would-be recruits *have been put off by the* level of pay and are less prepared than their predecessors to accept the tight discipline and old rituals of the army and the Vatican.

Beards are frowned on and soldiers must return to barracks before midnight. Though in the past the job of head of the guard was coveted by leading noblemen, the younger Swiss Catholic aristocracy are more interested in making money than serving the Pope.

Estermann came from a farming family and though the Swiss government is believed to have been willing to more than triple the SFr40,000 ($27,000) a year *commander's salary, no* other candidates came forward.

Swiss Guards marshal tourists at the Vatican yesterday Reuters

FRENCH BANK EUROPEAN COMMISSION GREEN LIGHT FOR LATEST PACKAGE NOW LOOKS INCREASINGLY LIKELY

Crédit Lyonnais rescue in sight

By Andrew Jack in Paris and Samer Iskandar in Brussels

Officials in Brussels and Paris will breathe a sigh of relief on May 20 if, as is now *increasingly likely, the Euro*pean Commission gives a green light to the latest proposed rescue package for Crédit Lyonnais.

A veto by the Commission, possibly driving the bank into bankruptcy, was beginning to look inevitable in the weeks leading to last weekend's European summit in Brussels.

A dramatic conclusion was averted only at the last minute, after the intervention of Jacques Santer, president of the Commission.

A solution to the Crédit *Lyonnais conundrum was* never going to be easy.

Even when the first rescue plan, evaluated at FFr45bn ($7.5bn) came up for examination in 1995, it was by far the largest state-aid case investigated by the Commission. The value of the new package now being debated is for at least twice that *amount.*

As Karel Van Miert, European competition commissioner, prepares for his final year in his job during 1999, it is probably the case more than any other on which he – and the work of the EU concerning issues of state aid – will be judged.

Frustrated by the long delays by the French government to requests for information, and the apparent high-handedness of certain officials, Mr Van Miert's temper has become increasingly short.

At the start of April, he set an ultimatum: either France came up with a new set of proposals by the end of the month, or the Commission would meet regardless. With the current information it had, it would almost certainly rule against the plan.

The central difference between Paris and Brussels, *which seems to have* been bridged last weekend, was over the sacrifices Crédit Lyonnais should make in exchange for additional aid.

The complexity of the case was also exacerbated, in its early days, by the Commission's inexperience in the banking field.

"When we asked for asset sales, we would be thinking in terms of tangible assets," said a Commission official. "The value of a steel mill, for example, is easily quantifiable in terms of production capacity. But how do you *evaluate an offer to sell a* portfolio of loans?"

As a result, the Commission has insisted on sales of physical assets: bank branches or subsidiaries. This will undoubtedly be reflected in the final compromise, likely to focus on ranges of activities (investment banking, commercial *banking) and geographic* divisions (Asian activities, European subsidiaries).

In the 1995 plan, the bank was required to reduce its commercial presence in Europe outside France by 50 per cent, equivalent *to asset* sales valued at FFr310bn.

After the more recent discovery that accumulated *losses* were several times higher than originally thought, Brussels argued that the total value of state aid in the Crédit Lyonnais rescue could now reach FFr190bn.

At *the lowest estimates, it* approaches FFr100bn. The French government has now accepted the Commission's argument that this doubling should be met with an equivalent increase in the pain imposed on the bank: FFr620bn in asset sales.

The Commission came round to the French view *that the bank would not be* viable without its London and Luxembourg operations. Instead, Mr Van Miert would accept an equivalent sacrifice in one of Crédit Lyonnais' other two high-profile *international regions: Asia* or North America.

Another disagreement ironed out was overprivatisation, which, both parties agreed, would take place before end of 1999.

This week, Mr Van Miert showed willingness to drop his insistence on a sale to the highest bidder, as long as the transaction was "open and transparent". This should pave the way for a French stock market flotation.

Germany's election bypasses 2m voteless Turks

Citizenship restrictions based on ancestry leave foreigners disaffected and excluded from politics, writes **Lucy Smy**

It is election year in Germany – but not for most of the country's 2.1m residents of Turkish origin. As a result of restrictive citizenship laws, little changed since a 1913 law ruling that only those who can prove German ancestry may be counted as citizens, only 160,000 ethnic Turks have *the right to vote.*

It is, notes one of Germany's two Turkish MPs wryly, an improvement on the 30,000 *eligible* to vote at the last general election in 1994 thanks to some changes based on length of residency.

"It is not a big number but I think this time there is a critical mass, and the parties are beginning to recognise that," says Cem Ozdemir of the Green party. "It will be the first election in German history in which there will be a serious campaign to reach non-Germans."

The issue of citizenship *has been thrown into sharp* relief by the state election in Saxony-Anhalt last month. The swift rise of the extreme-right German People's Union (DVU) to take 13 per cent of the vote was based on an intensive anti-foreigner campaign. The result has raised fears that the extreme right could win *support in other less affluent* regions in Germany.

It may also herald a shift in attitude by the ruling Christian Democratic Union and its Bavarian sister party the Christian Social Union as they try to claw back ground from the DVU with a tougher line on immigration and citizenship. Already this year they have voted down a relaxation of the citizenship law proposed by the opposition Social Democratic party.

Without citizenship or the *right* to vote, Turkish *residents* have become increasingly disaffected. They are the biggest ethnic group of *the* more than 7m *foreigners* and more than half of them have lived in the country for more than 10 years.

At a casual glance *their* impact on popular culture has been limited to the ubiquitous doner kebab shops. Identifiably foreign faces are seldom used in commercial advertising or the political advertising beginning to appear ahead of September's general election.

For the children and grandchildren of the original *Gastarbeiter*, or guest-workers, of the 1960s, a Germanic culture that has rejected *them holds limited appeal.* "The majority is growing up without citizenship in a country where they have *lived* all their lives. They probably speak better German than they do Turkish. And they are turning to Turkish nationalism or Kurdish nationalism or Islam or fundamentalism. It *is dangerous,*" says *Mr Ozdemir.*

Adnan Başağa, at the Turkish embassy, cautiously agrees. "There is an integration problem which stems right back to the beginning *of the arrivals of the Gastarbeiter.* There is an inclination towards fundamentalism or extreme movements. These extreme groups can always find some support in young Turkish society but whether it is stronger than before you cannot say."

You *cannot* win *either* way, complains Mr Ozdemir. : "We are accused of not integrating and they [the *government]* use non-integrated youth *to* fuel the argument against a change in the law or dual citizenship."

Ulas Ată, a politics student who has lived in Germany for 18 years, says: "I find it a great injustice that I have lived here for so long and I don't have a vote because I don't have a *Blutrecht* [blood right]. The DVU's support is a dangerous protest vote. But this has been encouraged by the *other parties,* the CDU and CSU, because they have divided people into *Inlander* and *Auslander (natives and foreigners).*"

Mrs Cornelia Schmalz-Jacobsen, the government's spokesman on the affairs of foreigners, voiced her concern about the rise of the far right. "When a party can campaign with a 'send home foreigners' slogan in a state with only 1.8 per cent foreigners, then the reason does not *lie* only in *Saxony-Anhalt.*"

She rejected a CSU statement following the Saxony-Anhalt election which said that policy on foreigners was now at the centre of the general election campaign. The statement was a "false signal", she said.

Forsa, the German polling organisation, says it has no idea which way the Turkish voters might vote. Manfred Güllner says: "The number is too small. Forsa asks citizens which way they will vote but we don't ask them whether they are German or not."

Mr Ozdemir says the Greens will be campaigning for the Turkish vote, however small. "We will be placing advertisments in Turkish in Turkish language newspapers here."

But Michael Donnemeyer, the SPD campaign manager, is more ambivalent, saying: "We would hope to reach these voters with our normal campaign." It is however a campaign that includes some *relaxation of the naturalisa*tion law.

The one thing the mainstream parties agree on is that there will be more pressure for the law to change after the general election. In fact, the rise of the far right may serve to speed a change.

"It is one of the things we would do very quickly," says Leyla Onur, the SPD's Turkish MP.

An anti-Nazi demonstrator after the Saxony-Anhalt election AP

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NEWS DIGEST

EU REFORM

Chirac likely to suggest Delors heads study

President Jacques Chirac is expected to suggest to Chancellor Helmut Kohl that Jacques Delors, the former European Commission president, should head a study into reform of European Union institutions.

Mr Chirac first publicly broached the idea on television last Sunday night, in an apparent desire to counter criticism that by forcing a compromise over the European central bank presidency he had spoiled the birth of the euro. Only yesterday did he sound Mr Delors out on the idea.

Elysée officials said yesterday the idea of a Delors group *would be put to Mr Kohl at the Franco-German summit* which opens this evening in Avignon.

But they stressed it was only an idea at this stage, and even with German approval it would go no further until all other EU members had been consulted.

Mr Delors is understood to feel there is scope for a group of wise men, drawn from various member states, to set out alternative scenarios on Europe's future. The euro has largely followed the precise blueprint laid out in a 1989 report by an earlier Delors committee composed largely of central bank governors. **David Buchan, Diplomatic Editor**

GREEK TELECOMS

Plan for early liberalisation

Greece plans to liberalise fixed-line voice telephony on Jan 1, 2000, a year earlier than scheduled, provided that OTE, the telecoms operator, makes sufficient progress with digitalising its network, a senior government official said yesterday.

The *government is under pressure from the European Com*mission to hasten telecommunications *liberalisation.* Two private cellular networks operate in Greece but little progress has been made on opening up data transmission and satellite services, while cable television has yet to be introduced. Because of delays in signing procurement contracts, only about 50 per cent of OTE's network has been digitalised. "Once 70 per cent of the network is digital, OTE would be in a position to accommodate new entrants," the official said. "Under the current timetable, that will take about another year."

Greece has lagged behind its European partners in liberalising its telecoms infrastructure and implementing EU directives. Although an independent telecoms regulatory authority was set up last year, it is not yet able to issue licences to new operators. **Kerin Hope, Athens**

FRENCH DEFENCE CONTRACT

Private shipyard wins tender

The French defence ministry has set a precedent by preferring a private shipyard to the state-run naval dockyards (DCN) in an open tender.

Although the tender was for small-scale repairs on a naval supply vessel, it nevertheless underscored the ministry's determination to seek value for money in competitive bids *when its budget is pruned back.*

The winning bid from the civil group Technitas was to repair the vessel in four months at a cost of FFr11.2m ($1.8m) – half the price and almost a third quicker than the DCN. The naval dockyards' initially offered to do the work for FFr35m, which was scaled down to FFr23.3m.

But another tender for a second vessel, the oceanographic *ship Jules Verne, damaged in the same accident,* went to the DCN despite its bid being more costly in time and money. Technitas pledged to do the work in 13 weeks for FFr4.3m against DCN's 15 weeks at FFr5.7m.

Highlighting the difference in costs and productivity appeared to be a deliberate move by the Socialist-led government to warn unions who are threatening industrial action to *prevent the run-down of naval dockyards* at Cherbourg, Brest, Nantes and Toulon.

The message is that survival defends on being able to compete better with the private sector. **Robert Graham, Paris**

SPANISH ECONOMY

Benchmark rate cut to 4.25%

Spain
Intervention rate (%)

Source: Datastream/ICV

The Bank of Spain yesterday greeted the country's formal incorporation into the European single currency by trimming a further 0.25 percentage points off its benchmark interest rate to a new *low of 4.25* per cent. José María Aznar, prime minister, said the reduction was "a reward to all Spaniards for having fulfilled our duties and obligations". It was the second quarter-point reduction in the central bank's securities repurchase rate this year. Its decision not to make a big*ger cut, bringing Spain's* official rate closer to the expected level for the future euro zone, was seen as underlining its prudent stance in the light of a possible resurgence of *inflation.*

The move, immediately followed by cuts in major banks' prime lending rates, continued an uninterrupted downward trend which began in late 1995, when the benchmark rate stood at 9.25 per cent.

Unions and employers' organisations were urging another rate cut after inflation figures which showed consumer prices unchanged overall during the first quarter of the year, with a year-on-year increase of 1.8 per cent. But the Bank of Spain acted in line with expectations by waiting until after the EU summit. **David White, Madrid**

SPANISH SOCIALISTS

Leadership functions divided

Spain's Socialist opposition has agreed on a compromise settlement to divide leadership functions between José Borrell, its newly *elected* candidate for prime minister, and Joaquín Almunia, the party secretary-general who was defeated in last month's candidacy contest.

Mr Almunia, who succeeded former prime minister Felipe González in the party post less than a year ago, has withdrawn his threat to resign – a move which would have required an extraordinary party congress to appoint a new *leadership.*

Under the deal, Mr Borrell will have a separate team to put organise his candidacy and will play the lead role in parliamentary debates, although Mr Almunia will remain in charge of the parliamentary party. The Socialist programme for the next election, due by early 2000, is to be set by a committee with Mr Almunia acting as chairman and Mr Borrell as "co-or*dinator*".

According to an opinion poll conducted after Mr Borrell's nomination as candidate and published by El Mundo, the Socialists have narrowed the gap with Spain's ruling Popular party to less than two percentage points, against almost six points in January. **David White**

Copenhagen may intervene to end strike

By Hilary Barnes in Copenhagen

Talks aimed at ending the strike which has paralysed Danish industry for more than a week broke down yesterday after the Confederation of Danish Trade Unions (LO) rejected a settlement plan put forward by the Employers' Association.

The failure of the two sides to agree intensified speculation that the government would intervene before the end of this week and ask parliament to impose a settlement.

On Monday Poul Nyrup Rasmussen, prime minister, urged the two sides to find a solution within 24 hours.

The two sides had called in the state industrial relations mediator after inconclusive talks on Saturday.

"The conflict will continue until the employers realise that we are serious," said Hans Jensen, chairman of the LO.

Yesterday 30,000 shop assistants and 15,000 electricians were locked out by their employers. A total of more than half a million union members, a fifth of the total workforce, have stopped work.

The dispute centres on pay and holiday entitlements. Employers said they would concede one extra day off a year, but the unions want at least two extra days off, plus two days off for parents to care for sick children.

The collapse of the talks has increased political uneasiness about the potential impact of the conflict on the May 28 referendum on the Amsterdam treaty on closer political co-operation between EU countries.

Newspapers which are still publishing are speculating that a parliament-imposed settlement might cause bad temper and discontent, leading to an increase in the No vote.

An opinion poll last week showed the margin of support for the treaty narrowing to less than 8 per cent, half the margin suggested by surveys earlier this year.

The latest poll showed 42.0 per cent in favour, 34.3 per cent against and 23.7 per cent undecided.

In a further move, the country's central bank yesterday raised its discount interest rate from 3.5 to 4.0 per cent.

Marianne Jelved, minister for the economy, said the increase could be seen in the light of the strike and uncertainty about the outcome of the referendum.

● Saab Automobile, the Swedish carmaker, said yesterday it would temporarily lay off up to 4,000 workers from Monday due to a shortage of Danish components caused by the strike. Saab was forced to stop car production two days ago, Greg McIvor writes from Stockholm.

Meanwhile, Volvo warned that its assembly of trucks, which rely on Danish-made components, would be halted from next week if the dispute continued. This could result in the loss of 160 trucks per day.

Athens allows 'market' to rule at state airline

By Kerin Hope in Athens

Greece's Socialist government yesterday distanced itself from the crisis at Olympic Airways, the loss-making state carrier which is making a last-ditch effort to restructure.

The government has presented Olympic's restructuring as a test case for reforming loss-making public sector corporations.

A senior official said the airline's management would be left to "implement a cost-cutting programme and find new sources of financing without any interference from the government."

Greece's cabinet is divided over whether Olympic should shut down but Yannos Papantoniou, the economy minister, says: "Market forces will decide."

Given its cash flow problems, Olympic is not expected to survive for more than a few months unless the government reverses its position and instructs a state-controlled bank to provide emergency financing.

First-quarter losses are projected at more than Dr5bn ($16m), one analyst said. More than 600 out of 7,000 employees have resigned since the restructuring was announced, fearing they might be sacked without compensation if the airline is declared bankrupt.

The European Commission has complained in the past of political interference in the airline's day-to-day management. Olympic's chief executive and board of directors are appointed by the transport minister. The Socialists also have close ties with Olympic's unions.

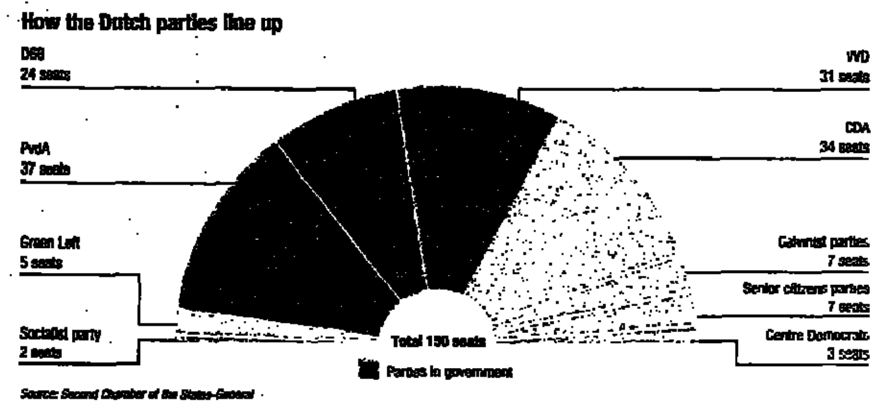
Olympic's board of directors on Monday night overturned two important provisions of a cost-cutting plan approved by parliament last month. The board agreed to extra overtime payments for pilots to avert cuts in the flight schedule during the tourist season. It also abandoned plans to cut loss-making international routes in response to a strike threat by cabin crews.

Theodoros Tsakirides, Olympic's chief executive, threatened to resign if the proposals were not accepted. He claimed the airline would have to shut down immediately if the pilots and cabin crews staged another strike.

One official said: "If we manage to keep flying and earn some cash over the summer, there's a better chance of working out a deal with the government and the European Commission that will ensure the airline's survival."

Dutch party leaders limber up as poll fails to quicken pulse

Choice the voters make today will help set the economic path of a core participant in monetary union, writes **Gordon Cramb**



Source: Second Chamber of the States-General

Wim Kok, the Dutch prime minister, tugged manfully at a rowing machine. Frits Bolkestein and Jaap de Hoop Scheffer, his two main rivals, respectively wielded a tennis racquet and jogged on a treadmill. At an event convened last month by the country's heart foundation, each wanted to show he was fit for government.

Fitness in the eyes of the voters will be decided in a general election today. This follows a campaign which has by no means quickened the national pulse.

As a series of inconclusive televised debates wound up and photo opportunities dwindled, the lunchtime news on the state-owned network yesterday devoted not a moment to domestic or European politics.

But the choice the Dutch will make, as the first Europeans to vote since the single currency became a certainty, will help determine the economic course of a core participant in monetary union. And electoral sentiment is shifting leftward.

Mr Kok's social democrat PvdA enters the contest as favourite and should add a good handful of seats to its present 37. Including a doubled, or even trebled, parliamentary presence for Green Left and the anti-Emu Socialist party – two previously fringe groupings – total prospective vote for the left stands close to 50 per cent.

That is the highest since the 1972 election, which brought in the government of Joop den Uyl, regarded as the reddest coalition the Dutch have seen.

The likely improvement in the left's tally, which had been below 45 per cent for the previous 15 years, comes despite the apparent implosion of D66, junior partner in the three-party coalition Mr Kok formed in 1994. The reformist democrats are expected to lose about half their 24 MPs.

Els Borst, health minister and D66 leader, has said that without a minimum 15 seats it could not expect to continue in office. That would not only end the term as foreign minister of Hans van Mierlo, her party predecessor, but also remove an oft-needed buffer between the PvdA and Mr Bolkestein's free-market liberal VVD.

The eurosceptic Mr Bolkestein, who declined a cabinet place when his party entered government under Mr Kok, declared his candidacy for the premiership late last month. Failing that, he aspires to the foreign or economic affairs ministries.

Though the two parties may together gain a majority in the 150-seat lower house, few believe a left-right grouping would be stable without the presence of a third force.

Green Left is on course for at least 10 seats, and has declared itself ready to govern. Following municipal elections in March, it sits on Amsterdam city council in a rainbow coalition with the three national partners. In Rotterdam it features, instead of D66, in an alliance which also includes the Christian Democrat CDA.

Under Mr de Hoop Scheffer, the CDA, ousted from power in 1994 for the first time since the second world war, has been repositioning itself to capture votes from the older and poorer, who are discontented with Mr Kok's welfare reforms.

As Mr Bolkestein puts it, "the CDA has aligned itself in social policy on the left of the PvdA". Those two parties governed together in 1989-94 and could do so again, though with the PvdA on top this time.

Mr Kok, who held the finance ministry in that cabinet, has salvaged a term of sorts at the European Central Bank for Wim Duisenberg, once a PvdA finance minister. The two were teamed in the second half of Mr Duisenberg's 16 years at the Dutch central bank.

Their combination of labour market intervention and financial discipline created hundreds of thousands of jobs and cut the public sector budget deficit to below half the Emu norm. It was dubbed the Dutch miracle or, more personally, the "Wim-Wim scenario".

Today, and in the coalition negotiations which will follow, Mr Kok must save his own job. There too, he knows he will need to compromise. That is what he does best, say supporters and detractors alike. He has expressed the wish for a more socially conscious face to his next administration.

But his firmest pledge, designed to sway those straying to the VVD, was aimed at the country's minority of homeowners. Full deductibility of mortgage interest payments at the top marginal tax rate "is good, and should stay," he said, "as long as I am prime minister."

Many in his party think this is being too generous to the advantaged, but are concentrating efforts on defending social security benefits against further erosion.

Internal discipline in the style of the UK Labour party under Tony Blair – who was fêted when attending a PvdA rally in Rotterdam last Friday – has helped eradicate an opinion poll lead the VVD had maintained through much of the cabinet term.

INTERNATIONAL

Camdessus warns on 'biggest crisis' for IMF

By Gwen Robinson in Melbourne and Stephen Fidler in Washington

The International Monetary Fund could face the biggest crisis in its 53-year history if the US Congress rejected Washington's proposed $18bn contribution to replenish the Fund's resources, Michel Camdessus, IMF managing director, warned yesterday.

The US Senate last month approved the administration's request for the contribution following the IMF's recent multi-billion-dollar bail-outs for Indonesia, Thailand and South Korea. But the House of Representatives has indicated strong opposition to the plan, citing growing international criticism of human rights abuses in Indonesia.

Mr Camdessus, speaking in Melbourne en route to Washington from Singapore, acknowledged his concern about delay of the US contribution, but said he still hoped it would be approved. The congressional wrangle over the proposal should be put in perspective, he said.

"In the House of Representatives, you have the traditional practice of linking issues, so when the government wants something, you attach to the bill something the government doesn't want at all, for example the abortion bill. Then you have complicated negotiations between the White House and factions of Congress."

Mr Camdessus also defended the IMF from criticism that it had been too harsh, particularly on Indonesia, which is struggling to comply with economic reform demands attached to the IMF-negotiated $43bn bail-out package. On Monday, Jakarta's removal of fuel subsidies increased the price of fuel more than 70 per cent, triggering warnings of further social unrest.

The removal of fuel subsidies was "indispensable" and though prices have sharply increased, they are still far below international levels, Mr Camdessus added. "This had to be corrected if you don't want to misallocate resources. It's like a doctor giving medicine: for a time, it creates more pain."

Mr Camdessus said he was optimistic the present economic reform programme in Indonesia would succeed. This was because the Indonesian government had seen, through the failure of two earlier programmes, the high cost of postponing such measures.

"Now they know that, and they know the only effective thing for them is to stick to implementation of the programme they agreed with us."

Stanley Fischer, the IMF's first deputy managing director, said in Washington on Monday that the economies of Indonesia, Thailand and South Korea could start to turn the corner towards the end of this year or early next.

But there were risks. "The recurring weakness of the Japanese economy is a fact that has to be borne in mind."

A further risk was the possibility of a rise in interest rates in rich countries. Interest rates in industrial countries were the "prime determinant of capital flows to developing countries. "If there is a period of sustained increases in interest rates, that could make the situation more difficult in the crisis countries and the developing countries in general."

Referring to increased speculation over interest rate rises in the US and Germany, Mr Fischer said there was "no reason to believe a sustained interest rate increase" was on the cards. But he added: "It's on the agenda."

Egypt business leaders to boost Israeli links

By Mark Huband in Cairo

Egyptian business leaders aim to turn Israeli public opinion against the policies of the Israeli government by strengthening Arab ties with Israeli organisations determined to save the Middle East peace process.

Thirty leading Egyptian business people and professionals have set up the Cairo Peace Movement (CPM) aimed at forging direct links and co-ordinating educational and cultural exchanges with Israeli moderates.

They hope to diminish Israeli suspicion of Arabs and the Arab states, encouraging support for the peace process within Israel.

The CPM has drawn its guiding principles from an agreement signed by Arabs, Israelis and others in Copenhagen in January 1997, committing all sides in the Middle East to settling the Arab-Israeli conflict through dialogue.

The CPM has been approved by the Egyptian government, and has the specific support of Osama al-Baz, President Hosni Mubarak's main interlocutor with Israel.

"The real battleground for peace is inside Israel, not Egypt," said Salah Bassiouny, CPM chairman and a former Egyptian ambassador to Moscow. "Arab public opinion supports peace. While I think Israeli public opinion in general does so too, we want a revival of public interest in the peace process itself." The CPM aims to attend a peace conference in Israel next month.

Egyptian officials have for more than a year been considering ways of appealing directly to Israeli public opinion, and seeking ways of preventing impressions of the Arab world being filtered solely through increasingly belligerent Israeli government statements.

"We are working definitely within the Egyptian position [on the peace process] and defending this stance, as well as defending the Palestinian position," Mr Bassiouny said.

"But we won't be negotiating with the Israeli government [on Egypt's behalf]. We don't want any subsidy from the [Egyptian] government and will be supported by leading business people in Egypt."

The CPM has attracted support from Egyptian business people who had hoped to strengthen commercial ties with Israel following the launch of the peace process in 1991 and the ensuing Oslo agreements.

Just over a year ago, Ibrahim Kamel, chairman of the Kato Industrial group, became the first Egyptian businessman to buy shares in an Israeli company when he bought a stake in Israel's Koor Industries.

Hopes that such ties would be strengthened have been shattered since the Israeli government of Benjamin Netanyahu built new Jewish settlements on Arab land and refused to abide by agreements to withdraw troops from territory to be administered by the Palestinian Authority.

Plans by the World Economic Forum to hold a fifth annual Middle East and North Africa economic summit to strengthen Arab-Israeli business ties this year have been cancelled because of the peace process impasse.

Israel spending bias attacked

Israel's State Comptroller yesterday criticised Benjamin Netanyahu's coalition government for spending a disproportionate amount on religious parties while discriminating against others, especially Israel's Arabs and the elderly, writes Judy Dempsey in Jerusalem.

Miriam Ben-Porat said the government spent too much money keeping the coalition together. The housing ministry, for example, which is controlled by the religious parties, built homes mainly for constituents while the ultra-Orthodox Yeshivot, or religious schools, inflated the number of students to win more money.

Sudan aid flights scramble to deliver food while peace is in the air

Aid workers believe they have only a short time to make the most of a break in the conflict, writes **Michela Wrong**

Ngor Thiep watches as neighbours hobble a bull, last of a herd that once numbered 40, and cut its throat with a spear. Normally, he would only slaughter one of his cattle, precious status symbols, for a marriage or celebration. But his children are hungry and he cannot afford to wait.

In the village of Ajiep in Bahr el Ghazal, the southern Sudanese province worst hit by insecurity and drought, the Dinkas have touched rock bottom. "The community is moving to the final levels of distress," says Mawiir Nyok, a local relief worker. "They are eating the last things they own."

Pre-famine signs heralding thousands of approaching deaths abound. At a feeding centre run by Médecins sans Frontières, hundreds of mothers, their breasts withered, cradle skeletal babies listless with malnutrition.

Sheltering under trees from the scorching sun and driving dust storms, Giacometti-like stick figures hold hands imploringly to mouths or rub sunken stomachs. At the local market, tiny piles of dried beans and peas are the only edible items on sale.

"I've never seen anything like this," says Mr Mawiir. "In 1988, when there was the last crisis, those who moved to other areas found food and water. Now there is no escape."

The crisis is the product of failed rains and a 15-year war in which both sides have ruthlessly used hunger to further their ends.

For four years, cultivation was impossible because of the devastation wreaked by Kerubino Kwanyin Bol, a local warlord backed by the northern Islamic government. Mr Kerubino rejoined the southern Sudan People's Liberation Army (SPLA) in January, and villagers say they have now "forgiven" him. But that still leaves Bahr el Ghazal at the mercy of Khartoum, which has restricted or banned entirely aid flights to the area in an attempt to punish the rebels.

At the weekend Khartoum gave in to international pressure and announced that Operation Lifeline Sudan, the umbrella aid operation grouping UN and private agencies, would in future be allowed to use five wide-bodied aircraft and several smaller planes to drop food and seeds over Bahr el Ghazal.

The gesture was welcomed by UN officials, who said it would allow most of the estimated 350,000 people at risk to be saved, while still leaving the huge task of rebuilding a destroyed farming economy to a level where it could see through the lean months without outside help.

"With five flights we can start saving lives," says Jason Matus, food economy officer for World Food Programme. "But the situation did not need to deteriorate to this level."

But the Sudanese of the south are more sceptical. The timing of the announcement, a day before a new round of peace talks between Khartoum government and the SPLA were about to open in Nairobi, has not gone unnoticed.

Having suffered a series of military defeats and with its economy in crisis, the government is on the defensive and playing for time. The sudden magnanimity on aid flights, SPLA members say, is aimed at winning sympathy abroad and increasing pressure on the rebels to declare a ceasefire.

"This is just a public relations exercise," said a top official. "Khartoum wants a ceasefire so they can prepare a new offensive. If they feel the new situation with flights doesn't serve their strategy, they will stop it."

And prospects for a successful outcome to the talks, diplomats agree, look bleak.

Chairing the opening session on Monday, Bonaya Godana, Kenyan foreign minister, berated both sides with their failure to modify stances adopted at the end of inconclusive talks last October. Neither, he said, had shifted on two key issues: separation of religion and state, and southern self-determination.

The SPLA, analysts say, regards an Islamic constitution recently promulgated in the north as a new obstacle to agreement, while the government still rejects a map introduced by the rebels at the last talks which expands their territory to include key oilfields in Unity province.

With the SPLA apparently convinced it can win the civil war on the battlefield rather than at the negotiating table, many aid workers fear the Nairobi talks will end without agreement and Khartoum will promptly rescind its latest flight order, leaving Bahr el Ghazal's population once again staring famine in the face.

"The general feeling in the aid community is that this is a very narrow window of opportunity that could close at any moment. So we're trying to fly as much into Bahr el Ghazal while we still can," said a Nairobi aid official.

A woman and child await aid supplies at the Ajiep air strip in south Sudan. The crisis is the product of failed rains and a 15-year war in which both sides have ruthlessly used hunger to further their ends Reuters

WORLD TRADE

BP ready to invest in Iran if US line eases

By Robert Corzine

British Petroleum is looking at possible investments in Iran, believing the US may be starting to change its attitude towards Tehran.

John Browne, BP's chief executive, said the company – which recently opened an office in Tehran – was looking at exploration and production projects and investments in Iran's petrochemical sector.

But he said there was one big caveat to investing in Iran: "We would like to see some progress on the Iran-Libya Sanctions Act (Ilsa)," the main vehicle for unilateral US sanctions aimed at restricting international investment in Iran's oil and natural gas industry.

Mr Browne admitted that the politics of the US-Iranian relationship "fluctuated from month to month" but he said: "We are beginning to see some change in Washington." BP did not require the repeal of Ilsa in order to consider investing in Iran, but it wanted to see enough progress "so perhaps some normalisation of relations can take place".

BP is especially sensitive to the issue of investing in Iran. Although the company traces its origins to the country, it withdrew from Iran after the 1979 Islamic revolution.

BP also has extensive interests in the US, where it is the single biggest producer of crude oil and the largest foreign investor. Mr Browne said BP "won't do anything to upset" its US position.

Any investments by BP are also thought to depend on the reformers in Tehran gaining the upper hand in their power struggle with conservative religious elements.

International oil company interest in Iran has increased in recent months as a result of ambitious plans by Tehran to open its struggling oil and gas sector to large-scale foreign investment. Many companies believe President Bill Clinton's administration is prepared to be more flexible over investments in Iran, especially if these reinforce the reformist elements in the government.

But executives say US congressional resistance has proved a complicating factor. In late March Thierry Desmarest, chief executive of Total, the French oil company, said congressional opposition was the only obstacle to the US administration dropping its threat to impose unilateral sanctions on Total and its partners Petronas of Malaysia and Gazprom of Russia. The three companies are developing the offshore South Pars gas field in the Gulf.

A much delayed US decision on whether to punish Total and its partners is expected later this month.

Investors call on Malaysia to open up

By Sheila McNulty in Kuala Lumpur

A group of US investors in south-east Asia has commended Malaysia for relaxing some restrictions on foreigners but has urged the authorities to go further.

"If you really want to... get some of the high quality, long-term, high-tech investors in here, you have got to go all the way," said Ernest Bower, president of the US-Asean Business Council, in an interview yesterday.

To attract much-needed foreign investment as the regional financial crisis slows its economy, Malaysia has raised its limit on foreign equity in telecom companies to 61 per cent from 49 per cent, but only for five years. It has also given foreigners a five-year deferment to comply with a new limit of a 51 per cent holding in insurance companies – down from 100 per cent in at least the case of American International Group.

"We would like to be here as full participants in the market," Mr Bower said. He spoke on behalf of the Washington-based council, whose representatives are in Malaysia for discussions with government and business heads.

The council has for several years called on Malaysia to open its markets and Mr Bower welcomed the steps taken. But other Asean member countries, such as Thailand and Indonesia, have shown more readiness to liberalise as they restructure their economies.

Malaysia remains convinced, however, that if it opens its markets too quickly and too broadly its own companies will be overrun by foreign competition.

Abdullah Ahmad Badawi, Malaysian foreign minister, said after speaking to the US-Asean Business Council that the steps taken would be enough to attract foreign investors.

Think-tank fends off attacks on US anti-dumping laws

By Nancy Dunne in Washington

A prominent US think-tank yesterday defended US anti-dumping laws, saying the worst accusations of unfairness had already been addressed by legislation implementing the Uruguay round of trade negotiations.

Further changes proposed by critics of the anti-dumping regime – such as exceptions when supplies are short – were "merely thinly veiled attempts to eviscerate anti-dumping laws," said Greg Mastel of the Economic Strategy Institute in a book released yesterday in Washington.

He argued that such laws were necessary in a world economy where companies acted from highly protected "sanctuary" markets, and foreign governments supported over-production.

Controversy has for years surrounded the laws allowing the imposition of tariffs on companies found to have "dumped" their goods in US markets at what is deemed by US government agencies to be unfairly low prices. Critics see them as "the last vestige of protectionism" used by domestic companies to counteract lower tariffs agreed in international negotiations.

Mr Mastel admits there has been valid criticism of US anti-dumping procedures. But changes made by Congress should be given a 10-year test period, he said. "A variety of interest groups, including foreign governments and companies, importers and laissez-faire economist are tireless critics of anti-dumping law," he said.

"As they often admit, their first preference would be abolition of anti-dumping laws, but they recognise that abolition is not a politically realistic option." Instead, they propose changes which would "fundamentally compromise the basic principles of anti-dumping laws – they are wolves in sheep's clothing".

Mr Mastel argued that there was "a compelling historical, legal, moral and economic case for the continued application of such laws". Without them, the US economy "would be ravaged by mercantilistic national strategies" emanating from Asia and the former Soviet Union. Protectionists in Congress would gain the upper hand, and far worse damage would ensue to the world's trading system.

Anti-dumping laws affected no more than 0.5 per cent of US imports between 1980 and 1993, and in most years the level was far lower. Only about 44 per cent of the cases filed resulted in the imposition of anti-dumping duties.

US may insist on keeping disputed shrimp law

By Nancy Dunne in Washington

The US may choose to face trade retaliation, rather than negotiate a settlement, if it loses a World Trade Organisation case involving shrimp fishing.

At issue is a US law that bans imports of shrimp from countries which do not have laws protecting sea turtles.

Last month, a WTO disputes panel issued an interim ruling against the US law. The decision has infuriated US environmentalists, who argue that trade rules should make exceptions for the greater environmental good. If the decision is upheld, the US would be required either to amend the law, or face WTO-authorised trade retaliation by countries which have complained that the law is hurting their exports.

Since the WTO's strengthened disputes procedures took effect, no losing defendant in a case has so far opted for a settlement based on trade retaliation.

This week the State Department granted approval to 39 countries, allowing them to export shrimp to the US this year. It did not include Thailand, Malaysia, Pakistan, and India, which brought the WTO case.

Brazil and Venezuela were dropped from the list after US officials said they were not enforcing their own laws to protect turtles.

State department officials said the US had not yet decided whether to appeal. In the meantime, the law remained in effect.

Charlene Barshefsky, US trade representative, has criticised the WTO decision, saying there are exceptions in WTO rules to protect human, animal or plant life. However, the Clinton administration has its own challenge to the law in US courts where it is arguing that it sets an overly broad standard for turtle protection.

Jay Ziegler, spokesman for the US trade representative, said the US was considering whether to accept retaliation or seek a settlement.

Some trade experts argue that failure to abide by the panel's decision would set a bad precedent for other losers in the WTO process.

US Eximbank chief goes on African investment safari

By Nancy Dunne in Washington

James Harmon, US Export-Import Bank chairman, the first senior US government official to follow up President Bill Clinton's 12-day African tour, returned to Washington last week determined to challenge Europe's trade hegemony in sub-Saharan Africa.

Officials and businessmen in Namibia, South Africa and Zimbabwe were pleased to see him, and for good reason. "Leaders come with great words. We come with money," Mr Harmon told them.

This is not something Africans are used to hearing from Eximbank, which has been focused in recent years on Asia and Latin America. Although Eximbank is open for business in 18 sub-Saharan countries, Mr Harmon is the first chairman to have visited southern Africa in the 65 years of the bank's history.

"Europe is ahead of us in terms of trade and export assistance," Mr Harmon noted. "They have had a long history of relationships and it's paid well for them."

US exposure in the Philippines is $2.6bn. By contrast it is $158m in South Africa and $109m in Zimbabwe. Eximbank's competitors have six to 10 times more exposure in sub-Saharan Africa.

His immediate goal is to tell African businessmen and bankers what Eximbank can do. "There is greater opportunity than I expected. There is also greater challenge," he said.

One emphasis will be on small business, which comprises more than 50 per cent of the economic activity in the region. Eximbank is considering assisting African businessmen who want to set up US fast food and coffee house franchises and need loans for equipment. In South Africa, he discussed the possibility of making financing available through the Small Business Association.

James Harmon: 'Leaders come with great words. We come with money' AP

With its natural beauty and exotic animal life, there is scope for developing tourism. Those countries haven't marketed themselves," said Mr Harmon. "There's opportunity for marketing firms." And hotels, resorts, taxis, guides, and the other accoutrements of tourism.

Also major expansion will be needed in telecommunications and energy. He met officials of the South Africa Foundation, a fund which pays for toll roads, airports, harbours and other infrastructure projects.

"We're looking at some very big projects," Mr Harmon said, although he declined to name the projects.

Airlines and airports also offer opportunities. Apart from one direct flight between New York and Johannesburg, most American travellers must fly first to Europe to reach southern Africa.

Mr Harmon discussed fleet modernisation with Air Namibia, privatisation with South Africa Airways and medium-range regional aircraft with Air Zimbabwe.

"There are several things we have to follow through on," Mr Harmon said. "This is just the beginning. We have to put the people in the market and stay the course."

China may use euro in reserves

By James Harding in Shanghai and James Kynge in Beijing

China yesterday signalled its intention gradually to convert a proportion of its huge foreign currency reserves into euros once it has judged the strength and stability of the new European currency.

The Economic Daily, an official government-owned newspaper, said the launch of the euro should facilitate trade relations with the European Union, China's fourth largest trading partner, by reducing currency risks and other transaction costs.

About 60 per cent of China's $140bn foreign exchange reserves is denominated in dollars, while Japanese yen and German marks each make up about 15 per cent of reserves, the newspaper said.

As the euro emerges as a hard currency to rival the US dollar, international central banks will convert a portion of their foreign exchange reserves into the European currency, the report continues, and China "in accordance with the stability of the currency, needs to increase our euro reserves appropriately and the weighting of our foreign debt".

In the future, the report expected that 40-50 per cent of global financial assets would be denominated in US dollars and between 30-40 per cent in euros. The rest will be held in Japanese yen and other currencies.

However, the article reinforced China's cautious approach to the new currency: "In the short term there are still some risky factors associated with the euro ... so the relevant authorities in our country should study the impact of the euro carefully."

Zong Liang, a researcher at the centre of international finance at the Bank of China, one of China's big four state banks, said that the euro's launch was likely to lead to an increase in the number of European bank mergers.

In turn, this would raise the competitive pressure on Chinese banks operating in the global marketplace, as they had no immediate possibility of merging, he said.

'In the short term there are still some risky factors associated with the euro'

Mr Zong added that China might also start to balance its current focus on purchasing US dollar-denominated bonds by buying more state bond issues denominated in euros in the future, if the new European currency proved stable.

● China's central bank yesterday announced it would open the country's local currency interbank market to eight foreign banks, a further step in the slow but gradual liberalisation of the financial services industry in Shanghai.

Officials said the move underlined the government's commitment to market opening despite turmoil in Asian markets over the past year. China did not think the Asian financial crisis should slow the pace of opening up, said Wang Qinhuai, an official with the research department of the China Foreign Exchange Trade System, which overseas the interbank market.

Tung determined to stay on course through the storms

Despite signs that squalls are unlikely to abate, Hong Kong's leader tells **John Ridding** that he remains resolute

Tung Chee-hwa: 'At the end of the day we will be leaner and more competitive' Reuters

It has been a tough 10 months for Tung Chee-hwa, the former shipping chief at the helm of post-colonial Hong Kong. Asia's financial turmoil soon swept aside the honeymoon of last July's handover. Rows have flared over the freedom of speech and the rule of law.

With legislative elections due this month, and mounting redundancies deepening the economic gloom, the squalls are unlikely to abate. But despite the trials, Mr Tung is determined neither he, nor Hong Kong, will be blown off course.

"We have faced a number of unexpected crises," says Mr Tung, in an interview, referring to the regional turmoil and health scares ranging from lethal chicken flu to toxic red tides. "I think we have responded very firmly, very clearly." Although critics cite a failure to be firm enough in upholding Hong Kong's autonomy, Mr Tung believes the administration has made a "good solid beginning".

More at ease than in the days ahead of the handover, Mr Tung lists achievements since. The one country, two systems formula which underpinned the Sino-British treaties has taken root. Beijing has been supportive, but it has also kept its distance. The currency link to the US dollar has been defended and economic strategy remains intact.

"Other countries may have had to scale back their ambitions", he says. "We have gone ahead with huge investments in infrastructure, housing and education."

To some in the investment community, such stimulus and Mr Tung's "flexible" approach to property supply smacks of unwelcome intervention. But the chief executive says the investments are necessary to sharpen competitiveness. While he wants property prices to stabilise, Mr Tung insists the government is not getting in the way of economic adjustment, nor will it scale back plans to raise home ownership from about 50 per cent to 70 per cent by 2007.

"Residential prices have already come down 35 per cent and office property values have come down 40 per cent to 45 per cent, all within four months," he says. "Although it is painful, it is necessary. At the end of the day we will be leaner and more competitive."

Popularity, however, has been sapped by this pain. The feelbad factor and an unemployment rate of 3.5 per cent and climbing are partly to blame for a slip in Mr Tung's support. A poll published last week by the Apple Daily gave him a 60 per cent satisfaction rating, down from nearly 70 per cent in the initial post-handover period.

He says the administration has coped well with the many challenges it has faced, citing the chicken flu outbreak and the decision to slaughter the territory's 1.5m chickens.

Economic affairs and health scares, however, are only part of the picture. More fundamental, argue critics, is that Mr Tung has not been firm enough in defence of the "two systems" concept which promises autonomy for Hong Kong.

Martin Lee, leader of the Democratic party, cites the chief executive's delayed defence of the government-funded broadcaster in a row over press freedom and recent controversies over the rule of law. These centred on a government decision not to prosecute Xinhua, one of Beijing's main offices in the territory, for an alleged breach of privacy laws, and fears that the government's "adaptation bill" – which transfers legal rights from British to Chinese institutions – places mainland bodies above the law.

"We deeply regret the passage of the amendment," says Justice, the Hong Kong section of the international commission of jurists. "The amendment undermines the rule of law."

Mr Tung rejects such fears. "Nobody is above the law, neither the chief executive nor mainland enterprises," he says. The adaptation law, he argues, is necessary to replace the concept of the Crown from pre-handover laws and to clarify where laws bind the sovereign and the state.

Perceptions of such cases are crucial. Few issues are more sensitive for Hong Kongers than fears of favouritism. The rule of law is as much a part of economic competitiveness as the lowering of Hong Kong's costs.

"I know the determination is still there to protect our system," says Vincent Lo, chairman of Shui On, the property group, echoing others in the business community.

He expresses confidence in the continued operation of the rule of law, noting that Emily Lau, a pro-democracy politician, is proceeding unfettered with her suit against Xinhua. Political opponents remain unconvinced, however, and have made the rule of law a centrepiece of election campaigns.

Those campaigns are now in full swing. While only 20 of the 60 seats will be selected by the electorate as a whole, itself a source of criticism, pro-democracy forces and other government opponents appear set to swell their ranks in the legislature.

Mr Tung is unfazed by the prospect. But a more restive chamber and the aftershocks of regional recession, suggest the going for the chief executive and his team may get tougher still.

New Vietnam bank chief faces reform tasks

By Jonathan Birchall in Hanoi

The Vietnamese authorities have nominated Nguyen Tan Dung, the first deputy prime minister, to be governor of the State Bank, the central bank.

The job has been vacant for seven months while the authorities tried to find a candidate prepared to take on the job of reforming the troubled banking sector.

Mr Dung, 49, is one of the youngest of Hanoi's top leaders, and comes with an impressive political pedigree.

Since last September, he has been the right-hand man of the prime minister, Phan Van Khai, with special responsibility for economic management. He will keep his position as first deputy prime minister if the National Assembly approves his nomination, as expected, after debate tomorrow.

Last September, the assembly surprised the new government by rejecting an attempt to appoint the incumbent, Cao Si Kiem, to a further five-year term. He had faced growing criticism following banking scandals.

The International Monetary Fund and World Bank argue that Vietnam's banks require urgent reform to ensure continued economic growth in an increasingly difficult regional climate.

The last publicly available official figures produced by the World Bank indicated that in June last year 15.4 per cent of all loans in Vietnam's banking system were overdue. Most are held by the main four state-owned commercial banks, which are politically obliged to continue lending to loss-making state companies.

There are also worries about the health of some 50 small private or "joint-stock banks". Three joint-stock banks are known to have had liquidity problems over the past year; the State Bank responded by bailing them out. Last week, Mr Dung repeated the government position that weak banks should be merged or closed.

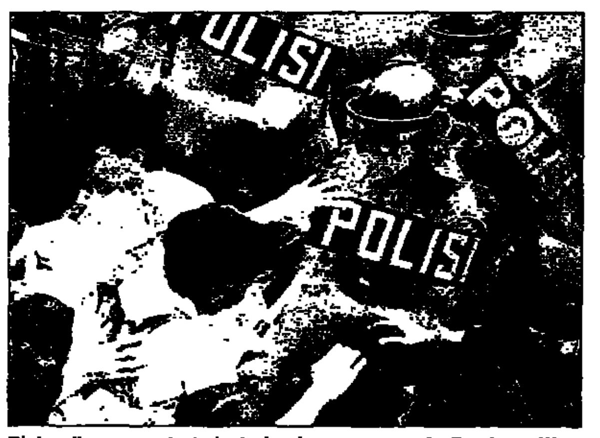
Foreign bankers in Hanoi, with some 13 per cent of the loan market, complain of a "climate of fear" in the banking sector, arising from the unresolved scandal surrounding collapse of a group of private companies in Ho Chi Minh City last year. More than 70 people were arrested, including bankers at the city's state-owned commercial banks.

Since the scandal emerged, foreign bankers say the State Bank has subjected them to a blizzard of regulations, many aimed at reducing their competitive edge over local banks.

Efforts to establish a local money market remain bogged down, while a proposed new electronic payments system funded with $49m of World Bank money is still not in place, despite being under discussion since 1994.

Indonesia police fire live bullets at students

By Sander Thoenes in Jakarta



Riot police prevent students leaving a campus in Bandung, West Java, yesterday Reuters

Indonesian riot police fired live bullets yesterday in a vain attempt to quell looting and anti-government student demonstrations in the city of Medan, according to civil rights activists.

One activist in Medan, a city on the island of Sumatra, said she had collected metal bullets from the scene of several riots in the past two days, confirming reports from other witnesses who said police had shot at rioters with more than the usual rubber bullets.

Earlier this week General Wiranto, the powerful defence minister and chief of the armed forces, ordered his commanders to take "stern action" if students moved their protests off campus. It was the toughest army warning yet to the students.

The violent protests against President Suharto have been inspired in part by his decision this week to raise prices for fuel, public transport and electricity.

The demonstrations intensified in Medan as bystanders joined in and started looting and torching shops. Many of the shops are owned by ethnic Chinese, a minority widely resented for their relative prosperity. About 58 civilians and 20 police were wounded during riots on Monday.

The price increases fulfilled an important pledge to the International Monetary Fund and paved the way for the release of a $1bn standby credit on Monday.

The IMF is due to review progress twice in the coming two months before releasing two similar tranches. The World Bank, Asian Development Bank and bilateral donors are expected to follow with their own aid offers.

However, the riots in Medan raise the prospect that growing domestic unrest may frustrate government efforts to reform the economy and stabilise the rupiah.

Student leaders, business executives and diplomats said the army might use the Medan riots and their negative impact on the value of the rupiah as grounds for cracking down on all student protests, even though most have been peaceful.

But the military's response to protests has been inconsistent, highlighting what diplomats say is a split in the armed forces. Police fired rubber bullets at peaceful students in the capital on Saturday, but yesterday troops escorted students from four campuses on a march in southern Jakarta.

The Medan riots also indicate that an army crackdown could backfire. Some witnesses said reports of police harassing female students had enraged bystanders as much as fuel prices.

"We never had an issue to unite us until Krismon," said Hakim Hatta, a student leader, using a popular Indonesian acronym for monetary crisis. "This has made our co-ordination more solid."

Indonesia's student movements, long pushed into apathy by regular arrests of student leaders and a ban on nationwide student groups from operating on campus, have reappeared in a matter of weeks in universities across Indonesia.

Mr Hatta, a law student whose Pijar student group focuses on building student networks, said student activists had gone underground after a crackdown in 1996 but kept in contact. Some joined inter-campus study groups.

These informal contacts are enough to co-ordinate protests, but student leaders concede their organisation may yet prove too weak to withstand an all-out crackdown. "We don't have one leader," one activist said. "We are still waiting for the one who is ready to stand in front. It could blow up and we could just have anarchy."

NEWS DIGEST

HONG KONG STOCK MARKET

Margin trading claims second HK brokerage

Hong Kong's falling share prices and the unregulated practice of margin trading claimed a second victim yesterday when Forluxe Securities, a small brokerage, requested a suspension of trading activities after its major shareholder went missing.

Client accounts at Forluxe will effectively be frozen, although clients with the requisite proof of ownership can sell their shares through other brokerages. The move added to the jittery sentiment surrounding smaller brokers since the collapse of CA Pacific in January. These brokers, already under attack from international houses and expanding technology, have been suffering from dwindling turnover and weak consumer sentiment.

Police, working in conjunction with the stock exchange and the Securities and Futures Commission, are investigating Forluxe. However, it appears its troubles stemmed from margin trading, whereby clients put up only a portion of the value to buy stocks, a practice prevalent among Hong Kong retail investors. **Louise Lucas, Hong Kong**

AUSTRALIAN EXPORTS

Increase in Korean cover

Australia said yesterday it would increase short-term insurance cover provided to exporters to South Korea by A$200m to A$500m (US$333m). The credit scheme, originally established in January for three months as part of the government's Export Finance and Insurance Corp (EFIC) national interest account, has been extended for a further three months.

The government had set aside A$70m of the increased funds for new beef and horticultural exports to Korea, Tim Fischer, trade minister, said. South Korea is Australia's third largest beef market and its second largest export market after Japan, worth A$7bn a year. **Reuters Canberra**

NORTH KOREAN DIPLOMACY

Kim to visit Beijing

Kim Jong-il, the reclusive North Korean leader, will visit China in the autumn for his first overseas visit since taking the reins in Pyongyang, a Japanese daily reported yesterday, citing Chinese government sources.

Mr Kim is expected to meet President Jiang Zemin of China and tour factories. The trip comes as Mr Kim seeks greater international support for his famine-threatened regime. Beijing's backing of Pyongyang weakened after China established diplomatic relations with South Korea in 1992, it said. Mr Kim last visited Beijing in June 1983. **Reuters, Tokyo**

PHILIPPINE INFLATION

El Niño blamed for increase

Philippine inflation rose to a 20-month high of 7.9 per cent in April, up from 7.3 per cent in March, according to government figures. Economists blamed the rise on the effects of the El Niño weather phenomenon, which has ravaged agricultural production, particularly in the southern region of Mindanao.

Food, the biggest component of the price index, increased by 1 percentage point to 5.5 per cent. After 2.8 per cent growth last year, the farm sector will contract by 1.5-3.5 per cent in 1998 because of El Niño, according to the University of Asia and the Pacific. The rise of inflation follows a benign inflationary picture in the aftermath of the Asian crisis. The government is aiming for inflation of 7.5-8.5 per cent for the year. **Justin Marozzi, Manila**

هكذا من الاصل

LAST YEAR PEOPLE SPENT 150 BILLION DOLLARS ON PERSONAL COMPUTERS. AND 29.7 TRILLION ON MISCELLANEOUS.

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FOREIGN INVESTMENT OTTAWA UNLIKELY TO ALLOW FOREIGN BANKS TO SET UP BRANCHES SOON

Banking study to delay Canada reforms

By Edward Alden in Toronto

The Canadian government is likely to delay promised legislation to allow foreign banks to establish branches directly in the country, and is linking the issue with the politically charged question of whether Canada's banks should be allowed to merge with one another.

Jim Peterson, Canada's secretary of state for financial institutions, said yesterday the legislation would be held back until after the report of a national taskforce on financial institutions was issued. The decision on branches, he said, was part of the merger question and needed to be looked at as part of a package.

Mr Peterson had said in an interview last month that the measures would come no later than the end of June.

Under current law, foreign banks must establish fully capitalised subsidiaries in order to set up branches in Canada. This requirement has discouraged some banks from entering the market, particularly for large-scale corporate lending that requires access to the parent bank's capital base.

Eliminating that barrier was a top priority for American and European negotiators in last year's successful conclusion to the financial services agreement in the World Trade Organisation.

Canada is obliged to allow direct foreign branching no later than June next year to meet its obligations under the WTO agreement.

Mr Peterson said Canada would honour its international commitments despite the delay, and suggested the government would consider allowing foreign branches to engage in retail as well as wholesale banking.

The national taskforce is expected to make recommendations on the bank mergers and on whether Canada should lift its 30-year-old policy of protecting its banks from foreign buyers by insisting bank shares be widely held. Four of Canada's five largest banks have announced plans to merge, but these must still be approved by the finance minister, Paul Martin.

Mr Martin said in an interview last month that the benefits of the mergers remained to be proved and insisted there was an absolute necessity to maintain a reasonable level of domestic competition.

The delay is likely to anger foreign banks. Bob Vastine, president of the US Coalition of Service Industries, which represents US financial institutions on global trade issues, called the decision a big disappointment. He said that from the banks' perspective the number one objective in Canada was to establish branches. He said the banks had worked and hoped for this for years.

Fighter of the future: versions by Boeing (left) and Lockheed Martin of the JSF for the US forces and Royal Navy

Boeing and Lockheed Martin go to war for fighter deal

JSF could be the last big manned combat aircraft, designed for a multiplicity of users and roles, reports **Alexander Nicoll**

When the US government blocked Lockheed Martin's acquisition of Northrop Grumman in March, the Pentagon seemed to be saying it wanted to keep three independent US suppliers of military aircraft.

But after the present head-to-head competition between Boeing and Lockheed Martin to win the $100bn Joint Strike Fighter (JSF) programme, there could in effect be only one. So much is hanging on the contest that neither competitor can contemplate losing.

The JSF, scheduled to enter operational service in 2008, could be the last manned combat aircraft to be built in large numbers if technology for pilotless aircraft continues to develop.

Given defence budget strictures following the cold war, the JSF will almost certainly be the last new US military aircraft, with or without a pilot, to be built in numbers for several decades.

This is because it is being designed to meet the needs of three out of the four US services as well as of Britain's Royal Navy, with the same airframe, engine and avionics configured for a multiplicity of roles, operating from conventional runways and aircraft carriers and with short take-off and vertical landing.

The JSF will replace various aircraft at present in service, including the US Air Force's F-16 and Harrier jump-jets operated by the US Marines and the Royal Navy.

The Pentagon estimates savings from the joint approach at $18bn (in 1995 dollars) in the development stage alone; total through-life costs could be less than half what they would be if its three services (the other customer is the US Navy) went for separate aircraft.

Alan Mulally, who heads Boeing's defence division, says: "JSF is a neat concept in that it serves multi-branches [of the military] but 75-80 per cent of the parts are going to be the same. It has the built-in variability the customer wants."

Under contracts worth $2.2bn awarded in 1996, Boeing and Lockheed Martin are each producing two demonstrator aircraft to fly for the first time in 2000. In 2001, one of them will win the right to progress to the next stage, with the prospect of building 3,000 aircraft for the four initial customers, and potentially many more.

The Pentagon, which is trying to get the most out of its reduced budget by streamlining its acquisition process, is using the JSF programme as a model. Instead of setting cumbersome specifications, it has set broad performance parameters and asked the contestants to come up with designs which will meet them.

It has set affordability as the overriding principle, with the conventional version to cost $28m in 1994 dollars, excluding R&D, and the carrier version $38m. This is cheaper than most comparable aircraft and means making trade-offs between performance and cost from an early design stage.

The Pentagon's approach is spurring manufacturers to modernise their production processes. Bidders submit no paper drawings, but discs containing their three-dimensional designs down to the last fastener.

The Pentagon will judge the competing aircraft not only on performance but on how easily and cheaply they can be maintained. This means keeping the number of parts to a minimum and making them easily accessible to support crews.

Frank Statkus, Boeing's JSF programme manager in Seattle, says: "The ways to keep this aircraft affordable came out of commercial processes for building aircraft." Boeing is using design and manufacturing software developed for its 777 aircraft.

Lockheed Martin is counting on its record as a long-term supplier of fighter jets, including the F-16. "We know how to build fighters which can last 40 years," says Frank Cappuccio, Lockheed's JSF programme manager in Fort Worth, Texas.

As in most defence procurements, politics will come into play: many jobs ride on the JSF decision as well as on existing programmes more advanced than the JSF but still in early production stages.

Lockheed is leading, with Boeing as a partner, the costlier F-22 air superiority stealth fighter now approaching full production, and it is still making the F-16. Boeing is producing the F/A-18 E/F Super Hornet for the US Navy. Both companies are involved in programmes to develop unmanned aerial vehicles.

The competitors have to tread a fine line, as they do not want to disadvantage their other products in pushing the JSF programme, which they may not win and which, like all military procurements, risks being scaled down or delayed.

"Our strategy is not to sell them one versus the other," says Boeing's Mr Mulally. "You're not going to hear us say the JSF solves everything. It's a fabulous product but we're trying to work with the customer to figure out how it fits in with the rest of the vehicles."

NEWS DIGEST

AIRLINE ALLIANCES

Washington plans inquiry over competition worries

The US government said yesterday it was launching an investigation into the recent wave of alliances among the country's six largest airlines.

Patrick Murphy, deputy assistant secretary for aviation, told senators the alliances had raised fears that competition on domestic flights would be reduced.

Describing the alliances as "nothing less than a major transformation of the industry", Mr Murphy said the government would not shy away from concerted action to stop anti-competitive alliances.

Last month Delta and United Airlines, two of the world's largest carriers, announced a global alliance, just one day after American Airlines and US Airways said they were launching an extensive marketing alliance.

Both deals followed Northwest Airlines' similar agreement with Continental Airlines in January. The deals in effect consolidate the industry into the hands of three large groups, in place of six dominant airlines. **Richard Wolffe, Washington**

LOCAL TELEPHONE MARKET

AT&T wants Baby Bells split

AT&T yesterday threw its weight behind calls for America's five "Baby Bell" companies to be split as a way of kick-starting competition in the country's local telephone market.

Michael Armstrong, chairman, said in a speech in Washington that dividing the monopoly local carriers into separate "wholesale" and "retail" operations would make it possible for would-be rivals – including AT&T – to compete for local customers on a more equal footing with the Bells. The wholesale parts of the Bells' operations would be managed as regulated utilities, which would then sell access to their networks on the same terms both to their separate retail operations and to other companies.

The idea has already been taken up by other long-distance carriers, such as LCI International and MCI, but the backing of the country's largest telecoms company is likely to give it more weight. The long-distance carriers fear that industry regulators will eventually allow the five Bells into the long-distance business, which has lower barriers to entry, before their entrenched local markets have been fully prised open. **Richard Waters, New York**

ARGENTINE BANKS

Liquidity rules may change

Argentina is considering an increase in bank liquidity requirements in advance of a possible rise in US interest rates.

If the US Federal Reserve seems to be inclining towards raising rates at the next meeting of its open markets committee, due on May 19, officials have implied that Argentina will raise liquidity requirements beforehand. A rise in liquidity requirements from the current 20 per cent was a key recommendation by last month's International Monetary Fund mission, which urged measures to cool the economy. Gross domestic product grew 8.4 per cent last year.

The IMF team warned that Argentina's growing trade and current account deficit could leave it exposed to a reverse in investor sentiment. It urged tax rises and other measures to slow domestic demand. **Ken Warn, Buenos Aires**

EUROPEAN CENTRAL BANK ARRANGEMENTS FOR BOARD MEMBERS TO RETIRE WILL ALLOW UK OPPORTUNITY TO TAKE SEAT

EU clears sterling's path towards euro

By Robert Peston, Political Editor

European government heads have facilitated sterling's adoption of the European single currency in four to six years through the complicated arrangements for appointments to the executive board of the new European Central Bank.

"They have made it easier for us by arranging for a board member to retire every year from 2002 to 2004," said a senior government official. "Clearly when we participate in monetary union we will want to be represented on the ECB."

Tony Blair, the prime minister, hinted at this yesterday in the House of Commons when he said that EU government heads had agreed over the weekend to give "appropriate weight and consideration" to "recommendations for nationals of member states not on the initial slate" for the next round of ECB appointments.

If sterling joined in 2002, a UK central banker could become vice-president because the French appointee, Christian Noyer, is scheduled to retire then.

In ferocious exchanges in the Commons, Mr Blair gave a staunch defence of the decision at the European Union summit in Brussels at the weekend to appoint Wim Duisenberg of the Netherlands as inaugural ECB president for a truncated term of about four years.

Responding to accusations that he had acquiesced in a breach of the Maastricht Treaty – which says the ECB president should serve for eight years – the prime minister said the Dutch central banker was "the only candidate that was credible". A failure to secure Mr Duisenberg's appointment would have been "a disaster" for financial markets, the prime minister claimed.

He reiterated that the Maastricht Treaty had not been been breached because Mr Duisenberg was under no formal obligation to quit early, but had entered into a gentleman's agreement with EU government heads.

Mr Blair described Jean-Claude Trichet, governor of the Bank of France, the French candidate for the ECB post who has been lined up to replace Mr Duisenberg, as "respected and experienced". He was pleased that two bankers "known for their independent views" would be "in charge of the European Central Bank for a total of 12 years", thus ensuring "stability".

Mr Blair said "the economics have got to be right" before sterling was surrendered, although he was confident the euro would be "a strong currency".

"If it is in the interest of British jobs, British investment, British industry we do it," he said.

The prime minister dodged questions about how he intended to fulfil the criterion for Emu membership that applicant currencies must maintain a stable conversion rate with the euro for two years.

Editorial Comment, Page 13

Trade minister warns businesses they must prepare

Margaret Beckett, the chief trade minister, yesterday delivered a stern lecture to companies on ways in which they could lose if they failed to plan for the euro, **Brian Groom** writes. "Many companies believe that because the UK is not joining in this first wave, they do not need to take any action," Mrs Beckett said. "They are wrong. The euro zone will account for nearly half of British exports and over 40 per cent of British overseas direct investment." She added: "Even though we are not in the first wave, our businesses will be affected and must be prepared to address the changes which Emu will bring."

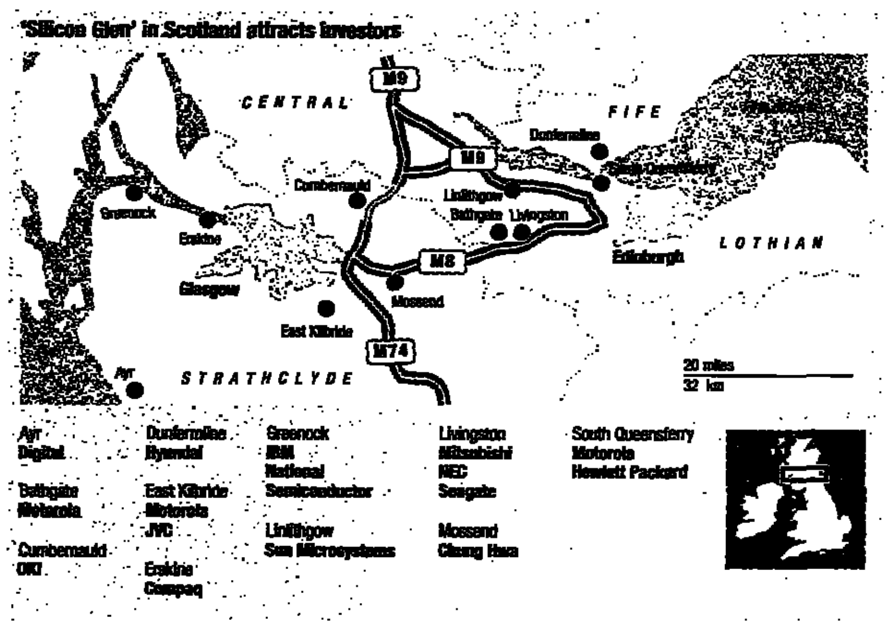
Mrs Beckett and Lord Simon, the government's European trade minister, addressed 200 businesses at the National Exhibition Centre, in Birmingham, England's second-biggest city, in the first of a regional series of government seminars.

Many exporters priced goods in sterling, Mrs Beckett said. As more of their competitors dealt in a single currency, pressure would mount for them to do likewise or lose business.

'Silicon Glen' tries to shake off its screwdriver image

An initiative with Cadence of the US aims to rid the Scottish electronics sector of its low-value-added label, says James Buxton

'Silicon Glen' in Scotland attracts investors



The shell of the vast Hyundai Semiconductor plant sited just off the motorway outside Dunfermline, eastern Scotland, is almost complete.

Unfortunately, the economic crisis in South Korea has pushed back its opening by a year, to the end of 1999. The delay to the £1.25bn ($2.08bn) project, announced in 1996, is an obstacle to the rapid growth of the Scottish electronics industry.

It was followed last month by the decision of Mitsubishi Electric to close its television plant at Haddington, 30km east of Edinburgh, with the loss of 500 jobs. On the same day, Fullarton, a UK company, shed 350 jobs at its personal computer assembly plant at Gourock, on the west coast.

But it is not all gloom. Last week Donald Dewar, the UK government's chief minister for Scotland, performed the ground-breaking ceremony for a project he called "the cradle of Scotland's new industrial revolution". This is Project Alba, an initiative from Cadence Design Systems, a US company, and Scottish Enterprise, the development agency, to make Scotland a world centre in semiconductor design.

Cadence, based in San Jose, California, expects to employ 1,900 people at Livingston, east of Edinburgh, by 2004. But Scottish Enterprise believes 6,000 jobs could have been created by then as other semiconductor design companies move in.

Project Alba should transform a Scottish electronics industry which employs about 60,000 people.

Many work in computer assembly for IBM, Compaq and Digital, or in semiconductor plants owned by Motorola and NEC. In the past decade, a stream of other companies from the US, mainland Europe, Japan and Taiwan has opened electronics plants in Scotland.

Yet Silicon Glen, as the Scottish electronics industry is called, has not shaken off the label of a low-value-added assembly – even "screwdriver" – operation.

Project Alba should change that. Cadence is the market leader in software tools used in semiconductor design, especially in "system-on-a-chip" technology, in which the systems in an electronic product are designed into a single chip. Semiconductor designers are in short supply worldwide, particularly in California.

'Once a critical mass of trading has been achieved, more companies will want to go there'

"Whereas other companies are responding to what is a crisis just by raising salaries and poaching staff from other companies, Cadence has gone for a long-term solution, which is very refreshing," says Jim Tully of Dataquest, the electronics industry analyst.

Scottish Enterprise has helped Cadence set up a partnership with four Scottish universities – Edinburgh, Glasgow, Strathclyde and Heriot-Watt – which are establishing masters degrees in "system-on-a-chip" design and will turn out about 200 graduates a year. What Michael Bealmear, an executive vice-president of Cadence, calls "a very unique collaboration between a sovereign government and a commercial organisation" was announced last December.

Under Project Alba, Scottish Enterprise plans to establish a mechanism by which electronics designers can trade their software. This would exploit the relatively benign environment for protecting intellectual property provided by Scottish law compared with that of the US, where it can take two years to negotiate an intellectual property deal.

Jim Porter of Scottish Enterprise says: "The existence of a strong core of designers at a time when 'system-on-a-chip' is expected to expand very rapidly will be a huge boost to Silicon Glen. There will be spin-offs in all areas of electronics and it will become easier to anchor manufacturing companies already established here."

Mr Tully says Scottish Enterprise has grounds for optimism. "Semiconductor design operations are being set up all over Europe, but once a critical mass of talent and trading has been achieved in Scotland more and more companies will want to go there."

Court move may clear way for beef exports

By Michael Smith in Brussels

Two meat factories in Northern Ireland have been given a clean bill of health by European Commission veterinary inspectors. The move could lead within weeks to the first exports of UK beef in more than two years.

The favourable inspection will be greeted with relief in the UK, which has suffered a series of setbacks in its attempts to win EU backing for a lifting of the ban imposed after BSE, or "mad cow" disease, was linked to a fatal disease affecting humans.

The European Court of Justice yesterday upheld the European Commission's right to ban British beef exports over the disease.

The court said the Commission "did not exceed the bounds of discretion in seeking to contain the disease within the UK". It confirmed a preliminary opinion of its advocate-general and the UK government had expected the judgment.

It has been attempting to lift the ban with two schemes, one relating to Northern Ireland beef and the other to cattle throughout Britain born after October 1996.

Commission officials say the "born after" scheme could be ready for presentation to EU farm ministers this month. The Northern Ireland plan – the "certified herds scheme" – won backing from EU nations last month subject to favourable reports from veterinary inspectors.

They concluded that the certified herds scheme was "well managed" by the Northern Ireland authorities, and that an abattoir and a meat cutting plant met EU requirements to start exporting. The commission said yesterday that other plants would have to be inspected before they could begin exporting.

Northern Ireland is able to start exporting beef earlier than the rest of the UK because it has a computerised system for tracking animal movements over the past eight years. The incidence of BSE – "mad cow disease" – in Northern Ireland is relatively low.

The European court's ruling yesterday concerned two separate but related cases against the Commission brought by the former Conservative government of the UK and the National Farmers' Union of England and Wales, which has argued that the ban did irreparable harm to the British livestock industry.

Liquor licensing laws to be overhauled

By John Willman, Consumer Industries Editor

The government yesterday announced the first comprehensive review of the liquor licensing laws for England and Wales since the 1960s. The laws cover pubs, clubs, restaurants and liquor stores.

Apart from the introduction of all-day opening in 1988 – extended to Sundays three years ago – the licensing regime is little changed since tough restrictions were imposed in 1915 to help the war effort.

George Howarth, a Home Office minister, told the British Institute of Innkeeping that the current laws, the most restrictive in the British Isles, no longer reflected modern leisure activities or the needs of the tourism industry. "The time is right to blow away the cobwebs in British life by modernising the liquor licensing system," he said.

Among the issues for review were the types of licences, who should issue them, licensing hours and conditions, and how the law should be enforced.

The announcement was welcomed by the industry, which urged a speedy conclusion. "It would be nice to bring our licensing laws into the 20th century while there is still some of the 20th century left," the Brewers and Licensed Retailers Association said.

The minister warned that change would come only after extensive consultation to protect the interests of residents and other interested parties. Officials said a green government consultation paper was likely at the end of next year and legislation would be some time later.

The pub and tourism industries point out that there has been no trouble following the relaxation of restrictions in Scotland and Northern Ireland.

● The prime minister's office has expressed concern over a possible move by John Prescott, deputy prime minister, to cut the drink-driving limit, fearing it could be seen as an attack on rural areas and motorists, George Parker and Liam Halligan write. A public consultation on drink-driving legislation will end on Friday, with ministers undecided on whether to cut Britain's limit to bring it into line with most other European countries.

But officials have grown increasingly concerned about the public response to a cut in the limit from 80mg of alcohol per 100ml of blood to 50mg. "We have been concerned for some time about the impact on rural pubs," said one. "But we want to see what can be done to reduce the number of deaths caused by drinking and driving."

Maxwell auditor faces formal complaints

By Jim Kelly, Accountancy Correspondent

The accountancy profession's senior regulator is to hear formal complaints against Coopers & Lybrand, one of the "Big Six" firms, over its role as auditor to the business empire of Robert Maxwell, the media magnate who founded Pergamon Press and The European newspaper.

Auditors were criticised after the collapse of the Maxwell companies – following the tycoon's death in 1991 – when it was found that up to £440m had disappeared from pension funds linked to the business empire.

An investigation by the executive counsel to the profession's Joint Disciplinary Scheme (a lawyer advising the scheme) has decided that a *prima facie* case exists against Coopers and a formal complaint will be made to the scheme's tribunal.

The tribunal has in the past dismissed charges put forward by its counsel, or decided that no action is required against partners or firms. Coopers said it would be "co-operating fully" with the process.

Initially the firm attempted to stall the scheme's inquiry until after the completion of civil and criminal proceedings linked to Robert Maxwell – but dropped its legal moves after contributing to a settlement for pensioners. It had argued that a scheme inquiry would place an intolerable burden on staff and partners involved and that the inquiry could have "catastrophic" consequences if severe penalties were handed down.

The tribunal will hear the case this year. It has wide-ranging penalties at its disposal including unlimited fines and the banning of individual auditors.

The disciplinary scheme said yesterday that Chris Dickson, the scheme's counsel, had completed his initial inquiry. Complaints would be made alleging that Coopers' conduct or quality of work fell below standard.

NEWS DIGEST

AIRLINE PERFORMANCE

Delays at biggest airports longest since 1991

Delays at the UK's six biggest airports increased last year to their highest level since 1991, the Civil Aviation Authority said yesterday. The average delay was 16 minutes, compared with 14 minutes in 1996. In 1990, flights were delayed by an average of 20 minutes and by 18 minutes in 1991. The figures are averages of all flights from the airports and not just of those which were delayed. The authority said last year's performance was still better than in the late 1980s despite a 24 per cent increase in the number of flights since then. Last year's delays had a variety of causes, including weather, industrial action, air traffic control difficulties, defective aircraft, missing passengers and security hold-ups. Delays to scheduled services increased to 13 minutes from 11 minutes the year before. International flights were delayed more often than domestic services. Delays were also more likely on long-haul routes than on short-haul flights.

The worst airports for scheduled passengers were all in London. Delays at Gatwick and Luton airports averaged 16 minutes. At Heathrow, the average delay was 14 minutes. **Michael Skapinker, London**

BOOKING AGENCIES

Ticketmaster launches online

Ticketmaster, the UK's biggest booking agency for live events such as rock concerts and London shows, is launching an internet booking service. The company, based in Los Angeles, has operated an online booking service in the US for the past 18 months. "We expect internet booking to become as popular in the UK as it is in the US," said Jules Boardman, managing director of Ticketmaster (UK). Barry Diller, the US media mogul who also has extensive cable television interests, acquired 50 per cent of Ticketmaster last spring for $210m in shares. After a boardroom battle, he clinched agreement in March to buy the remaining 50 per cent for $400m in shares. **Alice Rawsthorn, London**

MONTSERRAT CRISIS

Minister felt 'in Kafka novel'

Clare Short, chief minister for international development, yesterday criticised Foreign Office reaction to the Montserrat volcano crisis, as ministers came under fire from MPs for their response to last year's crisis on the Caribbean island. Ms Short told the House of Commons international development committee she felt she was in a "Kafka novel" as officials told her that her top priority was to continue a £3m ($5m) scheme to provide a new prison.

"For quite a long time I was under horrendous pressure to build this prison," said Ms Short. "It was like living in a Kafka novel and I just had to say 'No, I don't believe this is right'," she said. The resources, part of a £58m assistance package spread over three years, eventually went into "more useful help", Ms Short added. In a separate hearing, Robin Cook, the foreign secretary, told the committee that the government's response to the crisis "had not been good enough". **Liam Halligan, London**

ITALIAN CARS

Inchcape in Maserati deal

Inchcape, the UK company which is the world's biggest independent vehicle distributor and importer, yesterday took over the UK import franchise for Maserati sports cars. It expects to sell up to 600 of the high-performance Italian cars annually. The Inchcape purchase forms part of preparations by Italy's Fiat group to relaunch the Maserati brand globally. Fiat's Ferrari subsidiary bought Maserati in June. At that time production at the troubled Modena carmaker had dwindled to fewer than 1,000 a year, with only a few dozen being sold each year in the UK. Ferrari president Luca di Montezemolo immediately closed the plant in order to re-equip it with the latest manufacturing equipment and technology. Inchcape, which also owns Maranello Concessionaires, the importer of Ferrari cars to the UK, says the Maserati range will sell well below its Ferrari models. "The two brands will complement each other by having product lines which appeal to different sectors of the market," said Stuart Robinson, managing director of the UK Ferrari company who also becomes chairman of Maserati UK. **John Griffiths, London**

BANKRUPTCY CHARGES

Ex-trader to be sentenced

Terry Ramsden, the former City of London trader who made several million pounds trading Japanese equities in the 1980s, was yesterday jailed for the night in London before being sentenced today for breaking the rules of his bankruptcy. He has admitted three offences of breaching his bankruptcy arrangements. Glen International, his company, collapsed in 1989 owing creditors £100m. While bankrupt, Mr Ramsden concealed the existance of a trust fund from which, with his mother's help, he withdrew some £300,000, the court heard. He also failed to disclose £77,000 won in a bet and ownership of shares. **John Mason, London**

TELEVISION MOVE BY GRANADA

Free digital boxes to be offered

Granada Group is to give digital terrestrial television a boost by offering its TV rental customers free boxes needed to unscramble digital signals. Customers paying about £5 ($8.35) a week to hire colour televisions from Granada Technology, the company's TV rental arm, will be offered a free box worth £200 once British Digital Broadcasting launches at the end of the year. BDB is a digital terrestrial company owned by Granada and Carlton Communications. "We're aiming at people who are excited about the new technology but may be nervous about committing themselves to it," said Roger Mavity, group managing director of Granada Technology. **Cathy Newman, London**

INSURANCE MARKET CONSOLIDATION, COMPETITION AND EXCESS CAPITAL BLAMED FOR UNDERWRITING GLOOM

Lloyd's expects sharp decline in profits

By Christopher Adams, Insurance Correspondent

Lloyd's of London warned yesterday that insurance underwriting profits were expected to fall sharply. Excess capital, rapid consolidation and fierce worldwide competition have forced premium rates for commercial insurance lower, eroding margins, it said.

Max Taylor, chairman of the centuries-old insurance market, which recovered from the brink of ruin two years ago by ridding itself of billions of pounds in disastrous losses from previous years, said competitive pressures were "relentless".

Lloyd's has revised profit forecasts made 12 months ago for the 1996 underwriting year from £600m to £574m. It predicted profits for 1997 would be even lower at £366m, a return of less than 4 per cent on the maximum amount of business it was able to write, with the gloom extending into this year.

"Underwriters will need to use all their skill and ingenuity to produce profits at the current time and we must prepare for the likelihood that some will not be able to achieve this," said Mr Taylor.

The severe downturn in global insurance has brought to a sudden end a buoyant period of trading that followed the worst losses in Lloyd's history.

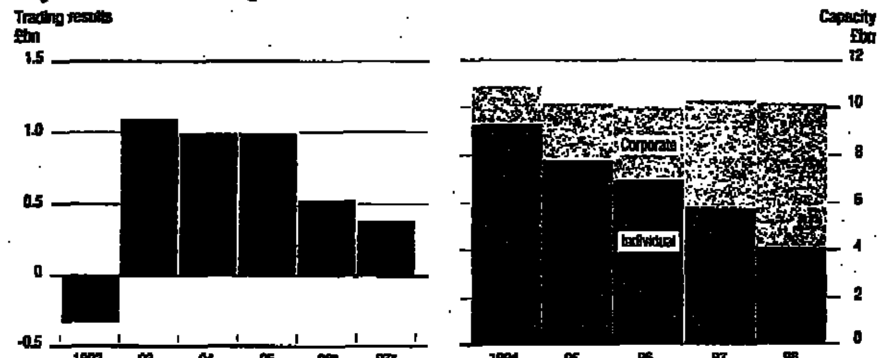
Lloyd's, which usually reports three years in arrears, unveiled profits for 1995 of £1.005bn compared with £1.013bn in 1994. The figure was calculated after deducting members' personal expenses but excluded a £144m release from reserves. It represented a return of 17 per cent on premiums of £5.92bn. Net resources at the end of last year were £6.8bn.

Mr Taylor reiterated concerns that Lloyd's "annual venture" system of raising fresh capital each year imposed unacceptable costs on the market. But he denied suggestions that Lloyd's was trying to drive out Names, its traditional capital providers.

The Lloyd's annual report, also published yesterday, revealed that Sir David Rowland, who retired as chairman last year, was awarded a bonus of £120,000 and his Lloyd's car in addition to a salary of £450,000. Mr Taylor's annual salary is £400,000. It showed that the cost of running the market's central services monopoly, the Corporation of Lloyd's, fell from £223m to £182m last year as staff numbers declined by nearly 200.

Ron Sandler, chief executive, said Lloyd's would probably not manage to recover most of the £570m in debts owed by Names who did not accept the 1996 settlement offer. The corporation recorded a modest surplus of £34.8m, compared with a deficit of £483.8m in 1996, when it made contributions to the recovery plan.

Lloyd's faces downturn in global insurance



Source: Lloyd's

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ART THE MAGNANI ROCCA FOUNDATION

More to Parma than ham and violets

Susan Moore admires a magnificent and diverse private collection

Why do so few Italophiles ever make it to Parma? This prosperous Emilian town, celebrated for its cheese, ham and spring violets, is home not only to parmigiano but the 16th century mannerist painter Parmigianino, and a host of masterpieces by Correggio.

There are the delightful frescoes of the Camera di San Paolo, painted for the private delectation of an aristocratic abbess, and his illusionistic frescoes in the cupola of Parma cathedral. The town boasts a fine art gallery housed in the gaunt 16th-century Farnese Palace, alongside the impressive classical theatre. And just 18km away, at the Corte di Mamiano at Traversetolo di Parma, there is the Magnani Rocca Foundation, which reopened last month. This private country villa is home to what must rank as one of the choicest small art collections amassed anywhere in the latter part of this century, and one, interestingly, formed with more discrimination than unlimited cash.

By all accounts, the late Gino Magnani – he died in 1986 – was an unusually cultivated figure, a professor of art history in Rome, essayist and musicologist, a man as likely to discuss Stendhal or a late Schubert quartet as any 16th-century masterpiece. This breadth was manifest in his collecting too. Unlike most of his countrymen, Magnani did not confine himself to the work of local or even Italian artists and the most striking aspect of a visit to Mamiano is discovering the unexpected – a stunning Dürer, a stupendous Goya, works by Ingres, Fuseli, a Mediterranean Monet, Renoir fish.

The first thing one encounters in the spacious entrance hall is a vast malachite basin supported by three gilt-bronze sphinxes by the outstanding French Empire *fondeur-doreur*, P-P Thomire, made for Tsar Alexander II who then gave it to Napoleon. This is part of a notable group of Empire furniture and works of art which Magnani acquired with the advice of the pioneering champion of Neo-Classicism, Mario Praz. The second revelation comes in the long picture gallery. As a collector of Italian Old Master paintings, Magnani never put a foot wrong; there is not a single dud. Moreover, a handful of paintings would grace any great museum.

There is, for instance, the glowing, perfectly preserved panel of St Francis receiving the stigmata by Gentile da Fabriano, originally made as a double-sided processional standard (the other, less interesting, side is in the Getty). St Francis kneels in prayer on a grassy ledge beneath the barren peak of La Verna. On the other side of a ravine, Brother Leo shields his face from the divine radiance of the dazzling, flame-like seraph whose golden light illuminates everything in its path and casts the rest in deep shadow. It is not known how Gentile came to interpret heavenly radiance as natural sunlight (he achieved the effects by laying his pigments over gold leaf), but this naturalistic rendering of light and shadow is entirely new in early 15th century Italian art.

Formed with discrimation rather than unlimited cash, this is one of the choicest small art collections amassed anywhere during the latter part of this century

Here, too, is Ghirlandaio's "St Peter Martyr" which once adorned the high altar of Santa Maria Novella in Florence, dismembered in 1809. Nearby, a Filippo Lippi Madonna and Child is suffused with the cool, blond light that became the hallmark of so much Florentine painting. Dürer's Madonna, meanwhile, finds the artist at his most Venetian, a rare work of his second visit to Italy in 1505-7 and acquired by Magnani from an impoverished convent at Bagnacavallo.

Titian's breathtakingly beautiful "Sacra Conversazione" dominates the main gallery, a Madonna and Child with St Catherine, St Dominic and a donor (probably a member of the Balbi family as the picture came from the Palazzo Balbi in Genoa). The monumental figures fill the foreground, the donor kneeling in devotion at the feet of the Madonna and the statuesque virgin herself turning as if to respond to the prayer of her faithful servant.

World's away is Goya's vast, secular conversation piece of the family of the Infante Don Luis of 1784 – notable for the fact that nobody is talking. Even Goya's palette is muted. The aged Don Luis, the brother of Charles III, sits at the card table, game over and cards discarded, staring vacantly ahead; his much younger wife sits having her hair curled. A retinue of staff and family stand in attendance while in the foreground a painter crouches at his easel.

Goya presents it all like some theatrical tableau, and even the protagonists seem to collude with an unseen audience. Donna Maria Teresa inspects us warily, the servants look on with open curiosity. Don Luis seems to be holding his pose while waiting for the curtain to drop – on the whole Bourbon dynasty, perhaps.

If these were not gems enough, the upper floor of the villa holds more surprises, a group of Cézanne watercolours among them, and an outstanding holding of 50 works – paintings, etchings and drawings, still-lifes and landscapes – by Magnani's friend Giorgio Morandi, acquired directly from the artist.

How did Gino Magnani come to accumulate such magnificent works of art? One answer is that his father was a well-to-do businessmen with interests in property and dairy and agricultural products. Another is that he prudently chose to buy works of art "notified" by the Italian government which, as they are unable to leave the country, were available for a fraction of their international market value. What gives this collection its truly distinctive character, however, is the rare care, discernment and passionate determination with which Gino Magnani selected and pursued his quarry.

In 1977 Magnani set up the Foundation for the public display of the collection after his death. Music and art remain the lifeblood of the place – as do those precious rounds of Parmesan cheese maturing slowly on the family estate nearby which help ensure the up-keep of the museum and its programme of loan exhibitions and concerts.

The Foundation is open daily, except Mondays, until November.

THEATRE

Superb 'Othello' grows in stature

Alastair Macaulay reviews Sam Mendes' production, now installed at the Lyttelton Theatre

Good as Sam Mendes's production of *Othello* for the National Theatre was when first seen last September at the Cottesloe, it is much better now that it has transferred to the Lyttelton. (In between, it has toured America, Europe, Asia, New Zealand and Australia.) In particular, David Harewood's account of the title role has grown immeasurably in immediacy, style, and power; and the whole staging – especially in the second half – is the most moving *Othello* I have ever encountered.

True, there are a few losses with its move from the smaller auditorium. Almost every actor lets a few or his or her quieter words or phrases become inaudible in the larger auditorium. But the production is compelling, the address of each actor to his or her colleagues exemplary. There is not an ounce of exaggerated or unnatural acting anywhere here. On Monday, an audience that had brought an outsize share of coughs, throat-clearings and rustlings into the auditorium was gradually transfixed; in the last two acts, the fall of a pin onstage would have been been audible, and – in a production so economical and focused – would have mattered.

The whole staging is the most moving Othello I have ever encountered ... there is not an ounce of exaggerated or unnatural acting anywhere

Much about this *Othello* – which is set in the period between the wars – will seem definitive for years to come. No performance more so than Simon Russell Beale's as Iago. He and Mendes have a noteworthy track-record in Shakespearian collaboration; he has been Mendes's Thersites (in *Troilus*), Areil (in *The Tempest*), and Richard III.

Can any actor match him in catching the misery of evil? Or its scorn? Or its loneliness? He seems ill at ease with his own body. His voice is stinging, his presence baleful, his mind bilious. Yet he takes us with revelatory freshness through each quicksilver stage of Iago's thinking, and takes us again and again by surprise. With no apparent change of gear, he seems to Othello & Co. loyal, concerned, simple; he is also witty, calm, and seemingly artless.

This superlative actor has, throughout the 1990s, been one of our foremost Shakespearians. As Iago, however, he has two faults. He shows the rattling speed of Iago's talk, but occasionally his rapid delivery of the long skeins of Iago's schemes becomes a virtuoso kind of monotonous babble: we hear the speed but not the words. And, in some soliloquies, he is too knowing, too close to camp in his cold relish for the evils he is setting in motion. Neither of these faults is too serious. Right up to the end, this Iago is disturbing and unfathomable: deeply so.

I had remembered – I hope I will never forget – Clare Skinner's rare ability as Desdemona to convey both purity and innocence; youthfulness and purpose; the shining alabaster-and-rose-pink of her complexion (the juxtaposition of this beside the burnished ebony of Harewood's Othello is an indelible image); the vulnerable catch in her ardent voice. But I had not appreciated – or she has gained in – her stillness. The complete composure of this Desdemona, whether in private grief or conversing with others, is wonderful because it draws us in: so that the final scenes in her bedchamber are thrilling. Tranquil in happiness, she is rendered immobile by affliction. We hang on her face and voice and stance because their tiniest nuance expresses her innermost feeling.

Baleful presence: Simon Russell Beale's Iago catches the misery of evil — Alastair Muir

As for Harewood, he now so fully inhabits the role of Othello that he carries the play's later acts. His rapport with Desdemona and Iago is full of superb detail: how marvellously he listens, and how poignantly he no sooner embraces Desdemona than he opens his mouth to address Iago. Because of him, we experience the plot of *Othello* three times over: first, as Iago announces *what he will do*; then, as we see it actually happen; finally, and most unbearably, as it is revealed, too late, to Othello beside his wife's dead body. Harewood listens, as he has listened throughout, with an innocence immensely touching in so forceful a man. It is still true that his actual diction is laboured; the dark, intense vocal tone and the consonants seem conceived in very separate areas of his head. But his phrasing has become altogether more natural, and his keen spontaneity overrides all. "Perdition catch my soul/ But I do love thee, and when I love thee not,/ Chaos is come again." The famous lines seem new-minted, and seize the heart with a pang.

Maureen Beattie's Emilia has likewise grown from good to excellent; Crispin Letts's delineation of Roderigo's deterioration is still striking; there is no weak performance. Anthony Ward's designs have transferred well. The production is set in the mid-war period, and its naturalism is perfect except for a clock's too-loud tick in Venice. Sometimes I think there is nothing better than to discover a new or unfamiliar play of excellence; but sometimes I think that the best experience of all is to encounter a familiar play as if for the first time. So with this superb *Othello*.

In National Theatre repertory on the South Bank, London SE1.

Just a couple of not-so-swells

NEW YORK THEATRE

BRENDAN LEMON

High Society
St James, Broadway

High Society has never before been performed on Broadway, but such is the shadow cast by its source material – the 1939 Philip Barry play *The Philadelphia Story*, its subsequent movie version, and the 1956 film musical adaptation with songs by Cole Porter – that the current production's performers cannot escape comparison with the likes of Katharine Hepburn and Cary Grant.

Invoking Hepburn, the originator of the role of Tracy Lord, the judgmental American princess who is on the eve of her second wedding day, and Grant, the first screen embodiment of C.K. Dexter Haven, Tracy's debonair first husband who crashes the proceedings to protect her, is not unfair. Theatregoers may not show up thinking they will encounter gods and goddesses of the Hepburn-Grant order, but they do have a right to expect performers who can make these roles their own; otherwise there is no reason for people to pay top prices for facsimiles.

Unfortunately, neither Melissa Errico nor Daniel McDonald, who play the pair of swells here, is fully up to the demands of their assignment, and their deficiencies remove a lot of the glimmer and bite from what is otherwise a well-designed, quite enjoyable evening. McDonald is the more serious piece of miscalculation.

A square-jawed specimen of almost reprehensible handsomeness, with a voice that has heft but not much lyricism, he would be ideal for George Kittredge, the down-to-earth fellow Tracy is about to marry; but as the yacht-loving, aristocratic Dexter, he is, in almost every way fighting above his class. When called upon to sing "Just One of Those Things," one of the production's handful of interpolated Porter standards, he conveys lament but not wryness; when delivering dialogue (from the book by Arthur Kopit) he is earnest rather than effortless.

In contrast to her co-star, Errico is not exactly miscast. She has old-fashioned patrician prettiness, an elegant, clear soprano, and is capable of the screwball-comedy speed her lines often require. She is also very good at queening it over her colleagues. But just as Tracy has all the attributes of a first-rate human being except an "intolerance for human frailty," Errico has all the makings of an excellent characterisation except an inability for playing upper-class irony.

In the early scene where she tries to deceive Mike Connor (Stephen Bogardus) and Liz Imbrie (Randy Graff), the scandal-sheet reporters who have been dispatched to cover her nuptials, she flounces around, making fun of their Midwestern hometowns. But when Errico says, "South Bend,... it sounds like dancing, doesn't it?" all you can hear is Hepburn's voice trilling the line, with its playful yet steely assurance. In this production, it is Tracy's precocious baby sister, Dinah (Anna Kendrick, deliciously bratty), who is better schooled in toff-like sarcasm.

It is Tracy's precocious baby sister, Dinah, who is better schooled in toff-like sarcasm

The other performers, with more stock roles to play, have near-uniform success. John McMartin, as Tracy's daft Uncle Willie, is particularly delightful. Bottom-pinching, bibulous, McMartin darts in and out of his Oyster Bay estate, where the nuptials are to be held, spreading an equal measure of gaiety and consternation. The second-act scene where he runs amok among his arbored grounds, and alights briefly to sing "Say It With Gin" is one of the production's high points. In fact, that outdoor sequence, set brilliantly by the designer Loy Arcenas against an imposing moon, is enchanting. In it, Barry and Porter's comedy of confused affections achieves a kind of Shakespearean magic. If only the entire evening, whose direction is credited to Christopher Renshaw, had achieved an equally high level of grace.

INTERNATIONAL

Arts Guide

AMSTERDAM

OPERA
Netherlands Opera, Het Muziektheater
Tel: 31-20-551 8911
Tosca: by Puccini. New production by Nikolaus Lehnhoff with a cast including Bryn Terfel. The conductor is Riccardo Chailly; May 6, 8, 10

BASLE

EXHIBITION
Kunstmuseum
Tel: 41-61-271 0828
www.kunstmuseumbasel.ch
Andy Warhol: Drawings 1942-1987. Around 230 works by the American pop artist, most of them on loan from the Andy Warhol Museum in Pittsburgh and the Warhol Foundation in New York; to Jul 19

BERLIN

DANCE
Deutsche Oper
Tel: 49-30-34384-01
Deutsche Oper Ballet: triple bill of works by Kylián, Bigonzetti and Forsythe; May 8, 9, 10

BOLOGNA

OPERA
Teatro Comunale
Tel: 39-51-529 999
www.nettuno.it/bo/teatrocomunale
Don Pasquale: by Donizetti. La Scala production condoucted by Maurizio Benini/Roberto Polastri in a staging by Stefano Vizioli. Cast includes Ruggero Raimondi; May 6, 8, 10

BRIGHTON

THEATRE
Brighton Festival
Tel: 44-1273-685 861
The Cherry Orchard: by Chekhov. Rimas Tuminas directs a production by the Small Theatre of Vilnius, Lithuania. With English subtitles; Gardner Arts Centre, University of Sussex; May 6, 7, 8, 9

BRUSSELS

OPERA
La Monnaie
Tel: 32-2-229 1211
Il Ritorno d'Ulisse: by Monteverdi. New production conducted by Philippe Pierlot in a staging by William Kentridge. With the Handspring Puppet Company, at the Lunatheater; May 9, 10

CHICAGO

CONCERTS
Orchestra Hall
Tel: 1-312-294-3000
www.chicagosymphony.org
Chicago Symphony Orchestra: conducted by Mark Wigglesworth in works by Debussy, Mozart, Berg and Sibelius. With soprano Christine Schäfer; May 7, 8, 9

DUBLIN

EXHIBITION
National Gallery of Ireland
Tel: 353-1-661 5133
The Irish Architectural Archive: 50 works selected from the archive, including designs for houses, churches and civic buildings by architects including James Gandon and Raymond McGrath; ends on Sunday

EDINBURGH

EXHIBITION
Scottish National Gallery of Modern Art
Tel: 44-131-624 6200
William MacTaggart (1903-1981): retrospective of the Edinburgh modernist. Includes around 50 paintings, watercolours and drawings, the majority borrowed from private collections and seldom exhibited; ends on Sunday

GLASGOW

OPERA
Scottish Opera, Theatre Royal
Tel: 44-141-332 9000
The Queen of Spades: by Tchaikovsky. Conducted by Richard Armstrong in a staging by Yannis Kokkos; May 9

LAUSANNE

OPERA
Opéra de Lausanne, Théâtre Municipal
Tel: 41-21-310 1600
Il Matrimonio segreto: by Cimarosa. Conducted by Jonathan Darlington in a staging by Alain Marcel. Cast includes Alison Hagley; May 8, 10

LISBON

CONCERTS
100 Days Festival, Expo '98
Portuguese Symphony Orchestra: programme of 20th century works; Main Auditorium, Centro Cultural de Belém; May 6

DANCE
100 Days Festival, Expo '98
Pina Bausch: specially commissioned new work; Main Auditorium, Centro Cultural de Belém; May 11

LONDON

CONCERTS
Royal Festival Hall
Tel: 44-171-960 4242
Barenboim Beethoven Cycle: series of six concerts, with Barenboim conducting the nine symphonies and directing the five Piano Concertos from the keyboard. With the Staatskapelle Berlin, the London Symphony Chorus and soloists tba; May 6, 7

LOS ANGELES

OPERA
L.A. Opera, Dorothy Chandler Pavilion
Tel: 1-213-972 8001
www.laopera.org
Il Trovatore: by Verdi. Conducted by Gabriele Ferro in a staging by Stephen Lawless. Cast includes Vladimir Bogachov; May 8

MILAN

OPERA
Teatro alla Scala
Tel: 39-2-88791
www.lascala.milano.it
Der Freischütz: by Weber. Conducted by Donald Runnicles in a staging by Pier'Alli, with a cast including Kim Begley and Nancy Gustafson; May 7, 9

MOSCOW

EXHIBITIONS
Pushkin State Museum of Fine Arts
French Master Drawings from the Pierpoint Morgan Library: featuring 120 drawings, sketchbooks and albums drawn from the library's permanent collections. Highlights will include works by Cézanne, Delacroix, Ingres and Poussin; ends on Sunday

MUNICH

CONCERTS
Philharmonie Gasteig
Tel: 49-89-5481 8181
● David Helfgott: Rachmaninov's Piano Concerto No. 3. With the Munich Symphoniker, conducted by Jeanpierre Faber; May 8
● Die Schöpfung: by Joseph Haydn. Concert performance conducted by Hayko Siemens; May 9
● Milan Symphony Orchestra: conducted by Alan Francis in works by Mozart, Bruch and Schubert. With pianists Ferhan and Ferzan Onder, and violin soloist Anton Barachowsky; May 7
● Vocalissimo! Gala der Stars: Enoch zu Guttenberg conducts works by Haydn, Mozart and Beethoven. With violin soloist Andreas Rainer; May 6

PARIS

CONCERTS
Théâtre des Champs Elysées
Tel: 33-1-4952 5050
● Cyril Huvé: recital by the pianist of a programme of works by Brahms; May 11
● Orchestre National de France: conducted by Jerzy Semkow in works by Mozart, Wagner and Tchaikovsky. With mezzo-soprano Jard van Nes; May 6

EXHIBITION
Musée du Louvre
Tel: 33-1-4020 5151
www.louvre.fr
La Collection Lemme: 17th and 18th century Italian art. Exhibition to mark the gift to the Louvre of 20 paintings and a sculpture. The 130 paintings on display include religious and mythological subjects and portraits; to May 11

SAN FRANCISCO

CONCERTS
Davies Symphony Hall
Tel: 1-415-864 6000
www.sfsymphony.org
San Francisco Symphony Orchestra: conducted by Peter Maxwell Davies in the world premiere of his own new work, A Reel of Seven Fishermen. The programme is completed by works by Haydn and Shostakovich. With cello soloist Lynn Harrell; May 7, 8, 9

STOCKHOLM

CONCERT
Königlichen Oper
Tel: 46-8-248 240
Deutsche Oper Orchestra: conducted by Jiri Kout in works by Weber and Dvořák; May 10

OPERA
Königlichen Oper
Tel: 46-8-248 240
Deutsche Oper: Tannhäser, by Wagner. Conducted by Jiri Kout in a staging by Götz Friedrich; May 7, 9

TV AND RADIO

● WORLD SERVICE
BBC World Service radio for Europe can be received in western Europe on medium wave 648 kHZ (463m)

EUROPEAN CABLE AND SATELLITE BUSINESS TV

● CNN International
Monday to Friday, GMT:

06.30: *Moneyline with Lou Dobbs*
13.30: *Business Asia*
19.30: *World Business Today*
22.00: *World Business Today Update*

● Business/Market Reports:
05:07; 06:07; 07:07; 08:20; 09:20; 10:20; 11:20; 11:32; 12:20; 13:20; 14:20.

At 08:20 Tanya Beckett of FTTV reports live from LIFFE as the London market opens.

EDWARD MORTIMER

Rethink on Cyprus

Tony Blair should use the EU presidency to break the deadlock in the island's long-entrenched conflict

Tony Blair is credited with making peace in Northern Ireland. We do not know yet whether he really has, but his success in forging the Good Friday agreement has given him, at least momentarily, a world aura as a peacemaker.

But his spin-doctors chose the wrong testing ground for this new-found reputation. In the Arab-Israel conflict, a British prime minister, even vested in the temporary grandeur of the European Union presidency, has very little leverage. Nearby, however, lies another long-entrenched conflict in which the EU has a direct, perhaps decisive role, while the UK has specific treaty responsibilities.

I refer to Cyprus, where even Richard Holbrooke, architect of Bosnia's Dayton accords, failed to break the deadlock last weekend. Mr Holbrooke, now US special envoy to Cyprus, described the setback as a "temporary but serious impasse".

Serious it is. But to call it temporary must have taken all of his legendary can-do spirit. Deadlock has prevailed ever since Turkish troops occupied the northern two-fifths of the island in 1974, regrouping the Turkish Cypriot population there while driving the Greek Cypriots out.

Agreement in principle on a "bi-zonal, bi-communal federation" was reached as long ago as 1977, but repeated efforts by the United Nations to translate this into a new constitution have failed. The main obstacle has been the determination of Rauf Denktash, the Turkish Cypriot leader, to win equal status with the Greek Cypriots by getting the world to recognise his Turkish-protected *de facto* state in the north of the island. The Greek Cypriots, meanwhile, insist on a workable federal government reflecting their preponderance in the population (roughly 80 per cent), on freedom to reside in any part of the island, and on the withdrawal of Turkish troops.

Three years ago the EU sought to break this logjam by including Cyprus in its next wave of members. This was done to purchase Greek consent to a customs union between the EU and Turkey, but it was also hoped that the prospect of EU membership would give both communities on the island an incentive to settle their differences. If Turkish Cypriots blocked a settlement they faced the risk of seeing Cyprus admitted to the EU under its present, purely Greek Cypriot government; and if Greek Cypriots appeared intransigent they risked forfeiting the prize of entry.

It has not worked. Mr Denktash has hardened his position, imposing two conditions for further talks that, as Mr Holbrooke says, make progress "extremely difficult". One is that his state should first be recognised internationally, the other that the accession talks between Cyprus and the EU should be broken off.

Only Turkey has real leverage over Mr Denktash – leverage it would have used, had things gone according to plan, to win west European good will and so smooth its own path to EU membership. Alas, at last December's Luxembourg summit the EU threw away this card by excluding Turkey from the "accession process" that has since been launched with 10 central and east European countries, as well as Cyprus. It also confirmed Turkey's "eligibility" for accession and proclaimed a "European strategy for Turkey". But this had a hollow ring for Turks, who saw themselves denied equal status even with countries deemed not yet ready for actual membership talks, such as Bulgaria, Romania and Slovakia.

Since then Turkey has sought to punish the EU rather than placate it. Instead of encouraging Mr Denktash to take up, or at least discuss, the EU's offer to include Turkish Cypriot representatives in the accession talks, it has backed him in breaking off the long-standing intercommunal talks on the island's future.

"We believe," says Mr Holbrooke (speaking for the US), "that Turkey's candidacy for EU membership should be considered on the same basis as other existing applicants, recognising that such membership could take many years."

Indeed, the EU should recognise that only by giving Turkey equal treatment can it revive hopes of reuniting Cyprus as a single, albeit "bi-zonal" state. Turkey is simply not going to allow the whole of Cyprus, with its Turkish community, to be swept into an EU where Greece is a member but Turkey is not welcome.

If the EU persists with its present line, Cyprus will remain partitioned. The south with its Greek inhabitants will join, while the north with its Turkish inhabitants stays outside, whatever the text of the accession treaty may say.

In that case a different way of settling the conflict will have to be tried: the one long since accepted as the only possible basis for settling the Arab-Israel dispute, namely "land for peace". The Turkish Cypriot state, like the Jewish one, should be offered recognition of its right to exist, but on condition that it contents itself with the same share of the land that it has of the population – roughly half what it now occupies.

Peacemaker Blair, as EU president, should confront his fellow heads of government with a clear choice. He should tell them that, unless they use next month's Cardiff summit to correct the mistake they made at Luxembourg, he will feel obliged to convene a conference of the three guarantors of Cyprus's independence (Britain, Greece and Turkey) and to propose a new formula giving independence to both communities on the island, on separate but equal terms.

Edward.Mortimer@FT.com

Serious impasse: Richard Holbrooke (left) with Rauf Denktash

LETTERS TO THE EDITOR

Chirac revealing on what fudge and a fix will actually mean

From Mr Harold W.D. Hughes.

Sir, You report ("Chirac and Kohl under fire for bank compromise", May 5) that Tony Blair, the UK prime minister, said of the decision on the European Central Bank presidency that "a fudge and a fix was actually avoided". He evidently does not share the same linguistic world as the rest of us. A fudge and a fix it most clearly was, providing an inauspicious start for a massive and risky project.

Not much noted was the fact that Jean-Claude Trichet, when eventually he gets into position, will serve the full eight years. Coupled with Mr Chirac's revealing words at the press conference about the need to preserve France's position within Europe, we can all see what precisely the implication of the fudge and fix actually is.

What also seems in question now is the earlier decision to adopt the eight-year term; four years is surely enough for any one country to possess this position, unless of course one actually believes that it will be free of political interference.

Harold W.D. Hughes,
16 Wingfield Road,
Kingston-upon-Thames,
Surrey KT2 5LR, UK

From Mr R.J. Miles.

Sir, The French should be admired for their adherence to principle: the principle that all international organisations should be headed by a Frenchman. However, if the deal reached at the weekend was an informal one, what is to stop Wim Duisenberg announcing in a couple of years' time that his personal circumstances have changed and that, in accordance with the Maastricht treaty, he has decided to stay for the full term?

R.J. Miles,
Court Lodge,
Blechingley,
Surrey, UK

From Mr Giovanni Zocchi.

Sir, I was struck by your front page picture of the euro coin (May 2-3). It depicts a Europe afloat in a geographical limbo, symbolising, perhaps, a Union devoid of a cultural and political context?

Giovanni Zocchi,
Bleegdomsvej 72 A,
Copenhagen, Denmark

Independent heavyweight

From Professor Robert H. Taylor.

Sir, Because of its reliance on government and official agency data, your analysis of the relative rankings of UK universities ("Once glorious Oxford only scrapes a third", April 29) captures those which are in receipt of taxpayers' funds but not the one which is not.

Because of our small size and relatively recent origins, the University of Buckingham, the UK's only independent university, would not weigh in with the heaviest weights in your table. But in terms of a number of crucial indicators we would rank with the best in terms of staff/student ratio, per capita library expenditure, employability of graduates, and international student body. The greater diversity of colleges and universities in the US is sadly missing in the UK because of the increasing level of state-led direction to higher education here.

Robert H. Taylor,
vice-chancellor,
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Buckingham MK18 1EC,
UK

Tracker device would deter tanker piracy

From Mr David Shamash.

Sir, Re your report of large tankers disappearing after being hijacked by pirates in south-east Asia ("Upsurge of piracy feared as Asian tanker vanishes", April 30), I wonder why ships are not fitted with devices similar to the tracker that can be fitted to a car to locate it in the event of theft. It cannot be so difficult to invent a device that can communicate with a base station via the satellite links used by, for example, Inmarsat.

David Shamash,
34 Floral Street,
London WC2E 9DJ, UK

Continuing enlargement of Nato key to European security

From Mr Normans Penke.

Sir, The process of inclusion of Poland, the Czech Republic and Hungary into Nato has approached its final stage and, as rightly stated in your leader "The US and Nato expansion" (April 28), it would be a mistake either to delay or encumber with conditions the Nato enlargement process. It is in all our interests that the ratification will proceed smoothly, thus paving the way for integration of other aspiring members into the structures that have created and sustained peace in Europe since 1945.

However, your leader concludes that there is no need to rush with further enlargement, especially in view of Russian sensitiveness. It also suggests that the Russian veto over the enlargement is an open issue although it has been repeatedly said by Nato that no third state, for example Russia, has a veto over Nato decisions on enlargement. I hope that you will agree that this is not the issue for mincing words.

Furthermore, allow me to emphasise that it will not be the sequence of accession to Nato that will determine the security of Europe, but the total final concept of European security that emerges from the enlargement of Nato and the European Union.

The Nato Madrid declaration clearly stressed that the process of enlargement will continue without excluding from consideration any European democracy regardless of its geographical location. The "open doors" policy not only reassured aspiring members of future membership but, above all, stressed that further invitations would enhance overall European security and stability. This is the cornerstone of why the enlargement of Nato should continue after the first three states are accepted. On these grounds I cannot agree with your cautious attitude vis-a-vis further enlargement.

This is an historical moment offering yet another possibility to create an undivided, peaceful and democratic Europe. The new members of Nato will not just be security importers but producers and exporters. This will enhance and not diminish the security and stability throughout Europe.

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PERSONAL VIEW WILLIAM DUDLEY

From virtuous to vicious

US economic growth has been fuelled by the relentless rise of the stock market. But if interest rates rise sharply, the model may prove brittle

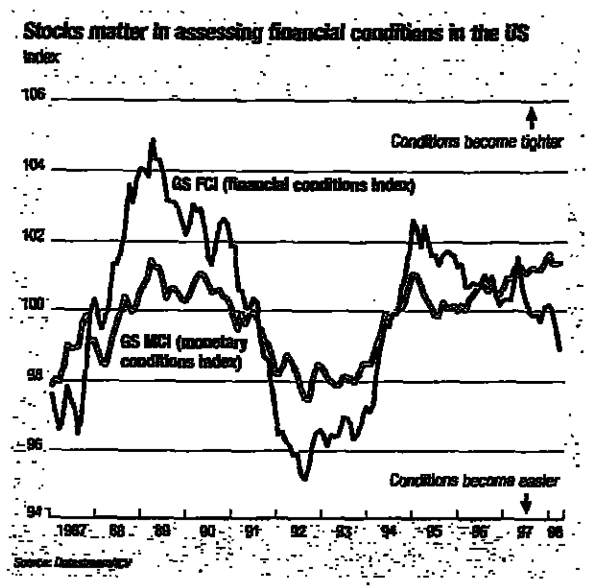
The US economy shows persistent strength. High real interest rates, trade drag from Asia, a stronger dollar, fiscal restraint – none of these has been sufficient to sap the economy's momentum.

Why has the US economy performed so well in spite of so many restraints? One needs look no further than the booming US equity market. By boosting household net worth – adding about \$1,000bn (£600bn) in the first quarter and more than \$6,000bn since 1990 – it has encouraged households to keep spending. The strength of the stock market is the main reason why the personal saving rate fell to a 57-year low last year; why save out of income when the stock market boosted household net worth by 13 per cent in 1997?

The robust stock market has been a significant part of the virtuous circle fanning talk that the economy has entered a "new era". Strong growth has generated rising earnings, pushing up share prices, fostering greater investment, increasing capacity and restraining inflation. Low inflation has helped to extend the life of the business expansion. The longer business expansion has boosted the equity market further by shrinking the equity risk premium. If recessions are less frequent, equities are less risky. As a result, investors are willing to pay more for a dollar of equity earnings.

As the equity market has continued to rise, the circle has become increasingly virtuous. For example, the stock market has helped hold down compensation expenses. Benefit costs have been restrained because many companies have not had to make contributions to defined benefit plans; they are fully funded as a result of the stock market's strength. Pressures for higher wages have also been restrained as share options have become a more important component of compensation.

Stock market strength has even helped push the federal budget into surplus. The rise in share prices (coupled with a change in capital gains tax rates) has led to a surge in capital gains realisations, boosting tax receipts. Capital gains tax receipts should climb to nearly \$100bn this year, up from \$44bn in 1995.



The importance of the stock market in keeping this virtuous circle intact cannot be overstated. To illustrate this, Goldman Sachs constructed a "financial conditions index" (see chart) by adding a stock market variable – the Standard & Poor's 500 index – to the monetary conditions index, which includes short- and long-term interest rates and the trade-weighted dollar.

The chart shows that the addition of the stock market has caused the financial conditions index to diverge sharply from the monetary conditions index in recent years. While the dollar's strength has caused the monetary index to move to its tightest setting during this business cycle, the financial conditions index shows a substantial easing. The stock market rise has overwhelmed the restraint exerted by a stronger dollar, making financial market conditions easier.

Based on monetary conditions, one would conclude that Federal Reserve officials would soon need to ease monetary policy. But looking at financial conditions, one reaches the opposite conclusion. The financial conditions index has done a much better job of anticipating the economy's strength in recent years.

So what does this imply for the economy and interest rates?

First, it suggests the economy will continue to be more robust than expected. Certainly, the pace of growth will start to slow in the second quarter, but this is largely for one-off reasons and is likely to prove temporary. Second, it implies that financial market conditions will need to be tightened. Excluding a collapse in equity prices or a dramatic strengthening of the dollar, Fed officials will need to push up interest rates in order to tighten financial conditions and restrain the pace of economic growth.

How much tightening might be required? While the answer depends on the reaction of the stock market and the dollar to such tightening, the financial conditions index suggests that a significant rise in rates could be needed.

One point on the index is equivalent to a one percentage point change in all the index's components. This means that, if share prices and the dollar were unchanged, it would take a rise of more than 300 basis points in both short- and long-term interest rates to push the financial index back to the level reached at the end of 1994. In practice, the dollar and share prices would be affected by a rate move of such magnitude, which would limit the extent of the rise needed.

But the point remains valid. If the equity market and the dollar are not unusually sensitive to changes in interest rates, it will take much more than the 25 to 50 basis points of tightening that some people are arguing will be needed to restrain the economy.

Just as serious an issue is whether Fed officials would be able to engineer a soft landing. The problem is that an economy that depends for support on a healthy stock market and a virtuous circle may be strong, but it is also quite brittle. It could become sick quite quickly should the stock market sink and the virtuous circle end. The boom and bust in Japan is a good example of this.

If share prices were to decline sharply, consumer spending would sink as households responded by raising their saving rates. Investment spending would also falter. Not only would the cost of capital rise as equity prices fell, but businesses would question the need to expand capacity when consumer spending was faltering.

The benefits of a strong stock market – lower benefit costs, more tax receipts – would also evaporate, raising questions about the new economic era. It might be difficult for Fed officials to modulate monetary policy precisely enough to slow the economy, but avoid an economic downturn.

This underscores the biggest error of monetary policy in recent years. If Fed officials had tightened rates in 1996 and 1997 by more than 25 basis points, the stock market would not be so high, the labour markets not so tight, nor the circle so virtuous. The economy would be less vulnerable to a monetary tightening that could turn a virtuous circle into something vicious.

The author is director of US economics research at Goldman Sachs

FINANCIAL TIMES

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Wednesday May 6 1998

Franco-German fractures

As Jacques Chirac and Helmut Kohl begin their bi-annual Franco-German summit tonight in Avignon – a city that has known schisms of the past – the memory of their confrontation over the presidency of the European Central Bank will be painfully fresh in their minds.

In blocking a full term for the Dutch candidate Wim Duisenberg, Mr Chirac claimed his dispute was only with the Netherlands, not with Germany. But the untruth of this statement was evident in the German chancellor's admission that last weekend in Brussels was his "most difficult" European summit. And in his 16 years in office he has known some.

In the long sweep of the Franco-German relationship, enshrined by Adenauer and de Gaulle in the Elysée treaty of 1963, the central bank row could be recorded as just a blip were it not for an accumulation of irritants and strains in many other areas. On reform of EU institutions, France has taken a stand not with Germany but with Italy and Belgium in favour of more decision-making by majority vote. In armaments co-operation, the French state's dithering about privatising its defence holdings is causing a break-up of joint ventures with German companies. In foreign policy, Bonn and Paris have recently found themselves somewhat at odds over how the EU should treat Turkey. On top of all this, Mr Kohl just does not get on with Mr Chirac as well as he did with the late François Mitterrand. Moreover there is the prospect that this September's German elections will see the political demise of Mr Kohl, one of the best German chancellors the French have ever had.

Reciprocal bargain

At the same time, one should not idealise the Franco-German relationship of yesteryear. The two countries have indeed acted as the motor of European integration. They did so at the outset, with their reciprocal bargain of a common market for French food and German industrial goods. They went on to inspire the creation of the European Monetary System and now the euro. And in a way that once seemed highly improbable, Paris has come around to accepting, even embracing, new members from eastern Europe partly in return for Bonn's support for a more active Mediterranean policy.

At odds

But the two countries have frequently been at odds over tax, free trade and defence policy. The Chirac-Kohl spats are not the first between their leaders. Relations between Willy Brandt and Georges Pompidou in the late 1960s and early 1970s were consistently cool. In fact, the utility of the Paris-Bonn special relationship not only to themselves but to other EU members lies precisely in the fact that France and Germany remain such different countries and societies. EU debates on multilateral trade, European defence or even electricity liberalisation, tend to polarise around German and French positions. Bringing these two positions together is often the secret of getting wider EU agreement.

But such agreements cannot be at the expense of other EU members. The Netherlands must be feeling this week that, in the end, Germany sacrificed Mr Duisenberg for France. Other EU states' traditional fear of a Franco-German *directoire* has receded as Paris and Bonn have found it harder to get their act together. Equally, there is even less excuse for such a *directoire*, now that Tony Blair's Britain looks set to play a full EU role by edging closer to the euro.

In the next couple of years, the EU will have to reform its finances and policies in advance of enlargement. These reforms cannot and should not be settled by Franco-German fixes, but could be complicated by Franco-German rows. French and German leaders should therefore start, at Avignon, to try to put their bilateral relationship on a sounder footing, starting with an acknowledgement of recent problems. But in doing so they must pay more heed to other Europeans than in the past.

Last chance on Middle East

In two years as Israeli prime minister, Benjamin Netanyahu has managed to reach one, partial peace agreement with the Palestinians, and that was 16 months ago. This involved a prolonged renegotiation of an overdue Israeli commitment to hand back most of the West Bank town of Hebron. One might, with charity, have interpreted this as an attempt to tighten up security provisions in the Oslo accords agreed by the late Yitzhak Rabin – which Mr Netanyahu regards as a threat to Israel's survival rather than a compromise underwriting the Jewish state's future in the Middle East.

In this week's US-led negotiations in London, Mr Netanyahu has tried to repeat the operation, only this time he wants to renegotiate the Hebron deal which *he* signed. And this after the US had persuaded the Palestinians to accept about a third of what they had expected at this stage in returned West Bank land.

Like all agreements reached under Oslo, Hebron sought to build a bridge to the next stage in the process. Thus, Mr Netanyahu committed Israel to "redeploy" troops from the West Bank and hand over significant chunks of it to the Palestinians, in three stages culminating at the end of next month. But there have been no withdrawals, because Israel first offered a derisory amount of territory, and then threw the whole process into crisis by expanding Jewish settlement of occupied Arab east Jerusalem and the West Bank.

Dangerous spiral

The US convened the London talks to try to break this dangerous spiral. Madeleine Albright, US secretary of state, proposed a phased Israeli withdrawal from 13 per cent of the West Bank in return for greater Palestinian efforts to shut down Islamist terror networks, a further redeployment by the end-of-June Hebron deadline, and a "time-out" on Israeli settlement building.

Yassir Arafat, the Palestinian leader, said in February he would accept the deal, and Washington agreed he would not be bargained down further. But after two days of intensive talks in London, Mr Netanyahu has still not accepted.

The right-wing nationalist Israeli leader wants to retain all the cards before negotiations on a final settlement – which under Oslo should be concluded on May 4 1999. But he clearly envisages no more than administrative self-government for the Palestinians, on at most half the West Bank or roughly a tenth of historic Palestine.

Reflect and consult

President Bill Clinton has now invited the two leaders to Washington next week, to give Mr Netanyahu some days to reflect and to consult with his rightwing cabinet allies. It is already clear that while he may swallow the 13 per cent withdrawal he wants either to fudge the rest of the US package or so dilute it with conditions as to place its worth to the Palestinians in doubt.

Israeli pressure through Mr Netanyahu's allies in the US Congress has prevented the administration from even making public its modest proposal. It should now do so. For this is surely the last chance for Oslo, which is the key to a comprehensive Middle East peace. If Israel will not meet such modest demands, it will be impossible to believe its current government wants such a peace.

If there is no real movement by the Hebron deadline moreover, the leading Arab states have said they will consider the peace process dead and re-examine from scratch their relationship with Israel. European Union countries are coming to similar conclusions. But what of the US?

Washington cannot enforce a solution. But both as regional policeman and as Israel's friend, it has the responsibility to set out what it believes the solution should be. The equation is simple, if not simply arrived at. The Palestinians must eventually have a state as the logical conclusion to the Oslo process. This is the only way for their rights to be met and for the Israelis to achieve the secure future which is their right. It is high time the international community, with the US at its head, spelt this out.

Japan's ray of hope

Desperately poor returns are forcing the corporate sector to look at Anglo-Saxon solutions, finds Paul Abrahams

These are desperate days in Japan. The world's second-largest economy is mired in recession. Ryutaro Hashimoto, the prime minister, has performed a policy U-turn of prodigious proportions, abandoning his commitment to fiscal prudence and pumping Y16,600bn (£75bn) into the economy. It all seems for naught. Many commentators believe growth this year may well be zero. Japan seems condemned to persistent stagnation.

The corporate sector is in just as dire straits. Three of the country's big five carmakers – Mazda, Mitsubishi Motors and Nissan – are hardly making a return above their cost of capital, if at all. Japan Airlines announced last month it expected to make group net losses of Y70bn for the past fiscal year. The airlines, along with oil and steel companies, are all severely underperforming. And about half of second-tier companies are trading near or below their break-up value.

But help may be at hand. A few Japanese companies are adopting Anglo-Saxon methods to boost profitability, cash flow and share prices. If such techniques were widely adopted, the structure and profitability of Japan's corporate sector could be transformed, restoring the country's economic fortunes in the process.

"Many western critics of the Japanese system have long argued that the country only needed to become more Anglo-Saxon to escape the malaise," argues Ken Okamura, strategist at Dresdner Kleinwort Benson in Tokyo. "It may sound arrogant, but that doesn't make it any less true."

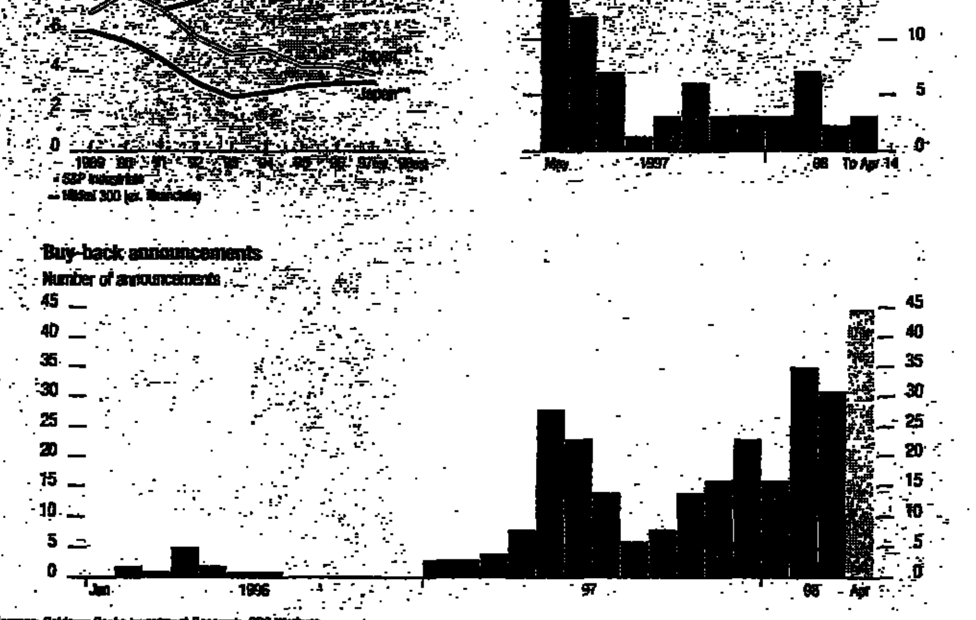
The idea that Japanese companies need to sharpen up comes as a surprise to many. After all, this was the nation that perfected just-in-time management and introduced the world to the concept of continuous improvement. And several of Japan's companies, such as Toyota, Honda and Sony, are truly world class.

But many others are woefully inefficient. Often protected from outside competition by non-tariff barriers, most have been obsessed by capacity increases, market share and sales growth. Some invest oblivious to the need of making a return on capital, spending on projects that can never recoup the cost of investment. In other words, they have been destroying value.

The result is that the average return on equity for Japanese companies last year was just 4 per cent, against 20 per cent in the US. This is not just the result of the recession: a particularly damning statistic is that the return on equity of the biggest companies on the Tokyo stock exchange peaked as long ago as 1978, according to SBC Warburg.

The scale of the mismanagement is astonishing, says Stephen Hay, head of research at Goldman Sachs in Tokyo. He estimates that, on average, US companies in the S&P Industrial index generate a return above their cost of capital of 4.5 per cent. In contrast, Japanese non-financial groups in the Nikkei 300 have collectively failed to achieve a return above their cost of capital since 1990. Goldman Sachs calculates that since then they have destroyed value to the tune of Y3,000bn a year – a cumulative Y21,000bn through investing in projects and plant that generated negative returns.

This massive misallocation of capital was just about sustainable during the 1980s. Then, the economy was growing fast, investors were content with capital gains on their appreciating shares rather than dividend income, and banks lent with little concern for what companies were doing with their money.



Sources: Goldman Sachs Investment Research; SBC Warburg

Everything has changed. Now the economy is in recession. Many pension funds, burdened by poor returns from their investments, are effectively bankrupt. Banks, faced with huge bad loans, are busy cutting credit lines.

There are signs that this bleak situation is prodding Japan's more imaginative companies into making structural changes. Unable to obtain financing from banks, they are being forced to turn to new sources of cash – either from the bond market or from shareholders. For the first time, Japanese companies are having to consider the interests of investors. There are several signs of such change:

- Over the past two years, about 70 quoted companies have announced share option schemes for senior employees. The fact that executives can make money if their group's shares rise is one of the most powerful tools in the Anglo-Saxon armoury for ensuring they pursue shareholders' interests with vigour.
- By the end of March, more than 270 quoted companies had announced plans to buy back their own shares. More companies are following suit, almost without exception to shareholder enthusiasm. Shares in Sumitomo Metal Mining jumped 18 per cent on its announcement of a buy-back last month, while Nippon Steel's shares rose 15 per cent.

Shareholders like buy-backs because of their potential effect on poorly structured balance sheets. A third of blue-chip companies have net cash on their books. Since debt is cheaper than equity, it often makes sense to borrow money to reduce the number of shares in issue, lowering the cost of capital and scotching the temptation to waste spare cash on bad investments.

'A few Japanese companies have suddenly realised that investors matter'

The scale of such buy-backs could be huge, believes Kevin Hebner, strategist at SBC Warburg in Tokyo. "There are few barriers to restructuring the balance sheet ... Shareholders are pleased because return on equity goes up, while employees – the traditional stakeholders – keep their jobs."

- *Managers who underperform are beginning to be threatened by the loss of their jobs through mergers and acquisitions.* Western investment bankers have long complained about the low level of M&A activity in Japan, restricted by the complex system of cross-shareholdings through which up to 60 per cent of shares is held by friendly companies.

But as in some continental European countries, such as France and Italy, these cross-shareholdings are gradually unwinding. "Long-suffering shareholders have typically waited for years for things to get better," says Hugh Trenchard, director in charge of investment banking at Robert Fleming in Tokyo. "Now they are beginning to lose patience."

TI Group, the UK engineering company, and NCR, the US data warehousing and computer group, have launched tender offers for their quoted Japanese subsidiaries, taking advantage of low share prices. Privately, western companies say such deals are partly motivated by the need to gain control, ousting poorly performing management.

"There are more deals in the pipeline. Japanese financial institutions are under pressure and talking about things that even months ago they were reluctant to consider," says Mr Trenchard.

Such shifts in corporate practice notwithstanding, the speed and extent of change should not be overstated. Some observers are cynical. "You have to question the real commitment of Japanese managers to their company's investors," warns Mr Okamura at Dresdner Kleinwort Benson.

Many of the share buy-backs have been small and announced just before the financial year-end, apparently motivated by an attempt to boost share prices in the short term, he argues. Moreover, not all companies that announced buy-backs have actually implemented them. And share option schemes still represent only a tiny proportion of remuneration compared with the US, or even Europe.

As for mergers and acquisitions, high barriers remain. Disclosure by Japanese companies is below western standards, making it difficult to know exactly what is being bought. Management is seldom willing to cede control, and hostile bids are almost impossible.

Nonetheless, share buy-backs are a potent agent for change, insists Shigeki Makino, portfolio manager at Fidelity Investments, the fund managers, in Hong Kong: "This is a step-change. A few Japanese companies have suddenly realised that investors matter. Maybe only 10 per cent know why they are doing it, but the other 90 per cent will have to learn."

Once the process begins it will be hard to stop, argues Mr Hebner: "Restructuring the balance sheet is the easy part. But once cash becomes a precious commodity, it immediately leads on to the next stage – allocating capital efficiently."

That represents "a revolution in Japanese management techniques", enthuses Noriyuki Uematsu, head of value-based management at consultants Deloitte Tohmatsu in Tokyo. "Traditionally, Japanese companies did not care about allocation of capital, nor the return on that capital. They invested in all their businesses and if they ran short of cash they just borrowed from banks. Now a few companies in each sector are beginning to use cash-flow techniques to work out the return on each project."

The main implication of this is that companies will increasingly shun investments in low-return projects. "That means they have to choose between businesses, deciding which are core and worthy of investment," says Mr Uematsu.

The logical conclusion is that many non-core businesses will have to be sold, with the outsourcing of, for example, information technology or distribution departments. A few companies are already doing this. Cosmo Oil, for instance, has outsourced its computer operations to Intec, a Japanese computer services group.

These changes are happening. But no one should expect an overnight revolution. Few commentators, for example, are predicting companies to announce mass redundancies in their non-core operations. Even the most radical are likely to place such businesses in subsidiaries, selling them at a discount and thus permitting the buyer to keep on the employees. "It's still hard for Japanese companies to close down businesses," says Mr Uematsu.

The pace may be far from breathtaking, but change is inevitable. "Those companies that don't transform the way they allocate capital will be like frogs in a pan of hot water," says Mr Uematsu. "As it approaches boiling point, they don't realise they are about to die."

OBSERVER

Where there's a Wim there's a way

The French might think they came out runaway winners in the weekend game of hardball over the presidency of the European Central Bank, but the Dutch political elite haven't hung up their padded gloves just yet.

Finance minister Gerrit Zalm lost no time in making clear that the French didn't have it all their own way during that 11-hour Brussels lunch. He's been pointing out to the Dutch press that Wim Duisenberg is to stay as Europe's monetary main man for a *minimum* of four years – and could hang on virtually as long as he chose, maybe even into 2003.

Also unearthed by The Hague's spin-doctors is documentary evidence intended to show that there was no retreat, no compromise. In a November 1996 interview, when Duisenberg seemed likely to waltz into the European Central Bank unopposed, the silver-haired central banker confided that he was not committing himself to a full eight-year term in Frankfurt. So what if these crucial comments appeared in the less than agenda-setting pages of feminist magazine Opzij?

But Paris won't be too concerned about the fighting talk emanating from the north-east. The realists in the Elysee will know as well as anyone that the tough message is primarily for domestic consumption: the Dutch government, after all, faces a general election today.

What a turn-off

Hard to believe, but not everyone in France is looking forward to this summer's World Cup football tournament with equal gusto. An organisation called *La Coupe est Pleine* (The Cup is Full) plans early next month to send its growing list of members a newsletter giving details of non-football-related events throughout France during the tournament. It also intends to open an internet site.

It's good news for the 70 per cent of French women who told a recent opinion poll that they're "indifferent" to the World Cup. *La Coupe est Pleine* already boasts 500 members and Christine Lam, one of the founders, says there are "nearly as many men as women".

Bearded wonder

There's more to Archbishop Christodoulos, newly elected head of the Orthodox Church of Greece, than a long cassock and a bushy beard. A lawyer by training who later switched to theology – he has a PhD in canonical law – Christodoulos speaks five languages and has promised to spruce up church policy.

Improving relations with relations with other churches is one priority. Greek Orthodox bishops have been bickering with Istanbul-based Patriarch Bartholomew, spiritual leader of Orthodox Christians worldwide, over ownership of church estates in northern Greece. Relations with the Vatican are cool.

Close to home, Christodoulos also says the church needs to get closer to ordinary people; to prove the point he'll be popping along to a Rolling Stones gig in Athens this summer.

But being modern has its limits. The Archbishop reckons Greece's Orthodox priests should go on wearing their distinctive stovepipe hats and ankle-length black cassocks. Younger clerics planning to take trim their bushy beards should think again.

Premier points

Secret documents of dubious origin have been flying round Prague like irate pigeons in the run-up to next month's elections in the Czech Republic. Opposition leader Milos Zeman is doing most of the cooing.

The would-be premier has produced what purports to be evidence that the resignation last November of prime minister Vaclav Klaus was a conspiracy hatched between rebellious cabinet members and President Vaclav Havel. His documents also allegedly showed that Jan Ruml, one of the ministers who helped topple Klaus, met the secret service chief to discuss mounting a campaign of dirty tricks against the Social Democrats.

Ruml denies the allegations and says Zeman is paranoid. It's not the first time Zeman has engaged in cloak and dagger intrigue. Last year, he took a briefcase of documents on government corruption to Havel – but was sent packing when they were shown to be forgeries.

Six weeks to go before polling day and who knows what's going to turn up next?

Double trouble

Former top CIA agent Ryszard Kuklinski returned to his native Poland last week as a hero, at least to anti-Communist Poles. But not every former Warsaw pact country has welcomed one-time double agents back into the fold.

Take Istvan Belovai, once of Hungarian military intelligence, who in 1984 had a change of heart and blew the whistle on what became known as the Conrad spy ring. A year later Belovai received a life sentence from Hungary's supreme court and, while he was released following the collapse of communism, to this day lives with a record as a traitor. This rankles with a man who reckons he helped avert a third world war; Belovai may be living safely in the US but, like his Polish counterpart, he wants a full pardon. "Something's wrong, when former Communists who worked for the Soviet Union are leading Hungary's march into NATO, while I am still a criminal," says the former double agent, who claims to be Hungary's first Nato soldier.

The Financial Times

100 years ago

Millionaires At War

One of the advantages of the present deplorable struggle between Spain and the States is that it affords employment for out-of-work millionaires. According to the New York correspondent of the "Daily News" no less than nineteen sons of millionaires are serving as common sailors with the American fleet, while Mr. Sims of Providence, "a millionaire several times over, is now acting as chief engineer on board one of the United States cruisers." If the Spaniards would only succeed in capturing some of these wealthy sailors and engineers and hold them as hostages, they might obtain a substantial set-off against the indemnity they will probably have to pay when the war is over.

50 years ago

Belgium Seeks New Govt.

Brussels, May 5. M. Paul Henri Spaak's Coalition Government resigned to-night over the 75-year-old question of State subsidies to Catholic schools. A Government compromise on this issue, which the Prime Minister said he would make a question of confidence, was rejected by Socialists in the Chamber of Deputies this afternoon.

FINANCIAL TIMES
WEDNESDAY MAY 6 1998

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THE LEX COLUMN

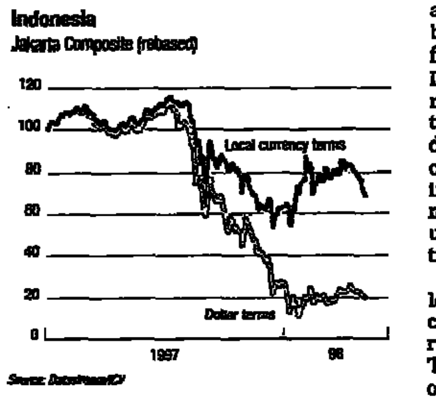
Living dangerously

Were it not for mounting social unrest, Indonesia might be looking like a recovery story. After all, President Suharto seems finally to be drinking the unpleasant medicine needed to stabilise the economy. Unfortunately, it is precisely measures like this week's 71 per cent rise in petrol prices that are stoking the student protests.

This carries risks for investors. One is that Mr Suharto will go slow on economic reforms out of fear of antagonising his people. The other is that the protests will sweep him from power.

At present, this does not look likely; the army is behind Mr Suharto and is backing the crackdown on dissent. Of course, many investors would be delighted if a credible new leader could be installed smoothly – such is Mr Suharto's reputation for backsliding and cronyism. The snag is that unseating him could provoke a bloodbath.

Only the most hardened investors should dream of entering this hornet's nest. With interest rates soaring and the economy shrinking, it is hard to see any point in investing in Indonesian equities. For anybody determined to take a punt, short-term government paper is probably the best bet. The tight monetary policy means this provides a good return in local currency terms. Meanwhile, the fact that the International Monetary Fund rescue package is seemingly back on track – with another $1bn in hard currency flowing in this week – should give some support to the rupiah.



Internet stocks

Plain old websites are getting boring. The latest internet trend is to build full-blown "portals" – point-of-entry sites to the net that are festooned with everything from browsers, directories and e-mail to games, online shopping and "chat" services. The logic is persuasive: the best portals will attract the most web traffic, allowing their owners to sell the most advertising.

The scramble to assemble the broadest possible mix of products and services is leading to frenzied deal-making. Following a recent link between Yahoo!, the biggest internet search engine, and telecommunications group MCI, its smaller rivals Excite and Lycos have teamed up with Netscape and AT&T respectively. The Excite/Netscape pact is the boldest. Excite is keen not on Netscape's original browser software but on its brand and its popular Netcenter website, both of which it feels have been under-exploited. Excite is betting the shop that it can do a better job by paying Netscape $70m cash up front – more than Excite's entire 1997 revenues.

Investors have greeted these deals enthusiastically, as a sign that the internet might be on the verge of becoming a money spinner. But because it is far too early to pick the winners from this largely loss-making crowd, they have sent stocks soaring across the board. With Yahoo! now worth $5bn or 40 times this year's turnover, valuations have completely lost touch with reality.

Hoechst

With a share price performance resembling the Matterhorn, Hoechst presents a wonderful example of two big pitfalls for investors. The first is of a management talking a good story, but failing to deliver. The second is of the market underestimating the difficulty of imposing radical change on ossified businesses. But expectation and reality now look to be in kilter at the drugs and chemicals group. The odds are shortening on pleasant surprises.

At the heart of the group that Jürgen Dormann, chairman, is reinventing is Hoechst Marion Roussel, the drugs and agrochemicals business. In the past three years about DM17bn ($9.55bn) has been spent on pharmaceuticals acquisitions and restructuring, but the return has been poor: last year's operating profits from both new and old parts were only DM1.65bn. But now that the overpayments are history, attention should turn to prospects. Hoechst has promised two drug launches a year from 1999, 8-10 per cent annual sales growth and margin improvement. That makes the group's market value of three times the drugs unit's sales – the global leaders are on 7-9 times – look undemanding.

Such a view would be reinforced if the long-drawn out disposal of the industrial chemicals side, with DM22bn of sales, can recoup the group's near DM17bn net debt. This would leave agrochemicals and various other investments in the current valuation for free.

North Sea oil tax

Is the UK government earning sufficient rent from its hydrocarbon reserves? Gordon Brown thinks not. With a consultation document on a new offshore fiscal regime overdue, the oil industry is nervous. Plans to increase the North Sea tax take, some £3.6bn ($6bn) in 1996-97, by a mooted £500m-£1bn a year will squeeze the industry hard – all the more so with the oil price averaging $14 a barrel in the first quarter of 1998, compared with about $20 in 1996-97. The hardest hit proportionately will be independents, such as Hardy, Monument and Enterprise, but the majors will not escape unscathed.

With marginal tax rates in the UK among the lowest in the world, the government will have an easy enough case to sell to the public if it decides to re-impose a "super-profits tax" on previously exempt fields. Halving the oil allowances – currently used to great effect to minimise tax liability – would be another way of milking the cow. Alternatively, levying a supplementary corporation tax – against which interest costs would not be deductible – would at least be straightforward.

Clearly the government will have to temper its enthusiasm for extracting a "fair" tax take with the need to maintain incentives for investment. Since development decisions for some less robust projects are on hold until clarity on the fiscal regime emerges, drawing this consultation process to a rapid close should be a priority.

Stronger US growth is expected in second half

Pace of price increases will continue to slow, say purchasing executives

By Gerard Baker in Washington

US economic growth will accelerate in the second half of 1998, and the pace of price increases will slow further, according to an influential survey of manufacturing executives.

The National Association of Purchasing Management said its members expected overall business conditions to continue to improve after a robust start to 1998, but the effect of the strong dollar and the Asian financial crisis would bite deeper into export prospects.

In its half-yearly economic survey published yesterday, the association found that 52 per cent of respondents expected conditions to be better in the second half of the year than in the first.

Asked about the outlook for the next 12 months, 59 per cent said they were optimistic, the same as reported last December. This is the highest level since May 1988.

"Purchasing executives report a similar level of optimism for the coming year as they did a year ago," said Norbert Ore, chairman of the association's survey committee.

The report will raise new question marks over the direction of policy taken by the Federal Reserve. Figures last week showed the economy grew at a rapid 4.2 per cent annual rate in the first three months of the year, in line with the frenetic pace of the last 18 months.

Sustained growth of that nature would normally prompt the central bank to raise interest rates to slow things down, but Fed officials have said they expect the economy to slow significantly over the rest of the year of its own accord.

But if the economy does maintain its pace of growth, as purchasing managers expect, some members of the Fed's policy-making open market committee will press for a rate rise sooner rather than later.

The FOMC next meets on May 19, but few economists expect a rate increase at that time. More likely would be a move at the subsequent session on July 1-2, if the economy is still expanding rapidly.

But complicating the Fed's task is the gradual disappearance of inflation. In the first four months of the year, purchasing managers reported that prices declined on average by 0.7 per cent. More executives now expect prices to decline in 1998 than are forecasting a rise.

However, manufacturers have become noticeably more pessimistic about export prospects. One-fifth of respondents expect either a substantial or a moderate decrease in export business in the second half of the year, against the 6 per cent forecasting a decline last December.

For the first time, Asia appeared on the list of executives' 10 greatest economic concerns – in fourth place behind labour costs, the overall economy and inflation.

Separately, the Conference Board, a private sector research group, reported that the index of leading indicators, which predicts economic activity in six to nine months' time, rose by 0.2 per cent in March, led by strong money supply growth and a rise in stock prices.

Alan Greenspan, the Fed chairman, met President Bill Clinton yesterday for talks about the state of the economy. White House officials emphasised that the meeting was a regular event.

China hits back at India after 'security threat' accusations

By James Kynge in Beijing

China strongly denounced India's defence minister yesterday after he accused the Chinese of being India's greatest security threat, providing missiles to Pakistan and stockpiling nuclear weapons in Tibet.

The heated exchange indicated a severe setback for years of bilateral "confidence-building" measures which culminated in a visit to India by Jiang Zemin, the Chinese president, in late 1996.

Diplomats said the sudden souring in relations between Asia's most populous powers was almost certain to become an issue for US diplomacy before planned visits by President Bill Clinton to Beijing in June and New Delhi later this year.

George Fernandes, the Indian defence minister, made his comments just days after a visit by General Fu Quanyou, the chief of China's People's Liberation Army, to New Delhi. Zhu Bangzao, China's foreign ministry spokesman, said: "China cannot but express its utmost regret and resentment." The remarks by Mr Fernandes would "seriously sabotage the favourable atmosphere for developing friendly relations".

"His so-called view that China constitutes the principal threat to India is absolutely ridiculous and not worthy of refutation."

Some analysts believe a sense of frustration in New Delhi over rapidly warming ties between the US and China ahead of the June summit may have prompted Mr Fernandes' remarks. Such warmth irks New Delhi, particularly because China is one of the staunchest allies of its arch-rival, Pakistan.

Sujit Dutta, a senior fellow at the United States Institute of Peace in Washington, said there was a sense in New Delhi of an increasing US tendency to treat China as a protagonist in most of Asia's security issues. This should be balanced by greater US dialogue with other countries in the region, he said.

Diplomats in Beijing said that by identifying China overtly as a security threat, New Delhi was availing itself of a stronger argument against any pre-summit intensification of US pressure to sign the Comprehensive Test Ban Treaty or the nuclear Non-Proliferation Treaty, which seek to curb the spread of nuclear weapons.

There was a sense in New Delhi that, if Washington persuaded China at the June summit to sign the Missile Technology Control Regime, this might result in increased pressure on India to make reciprocal arms control concessions.

By signing the accord, China would have to stop exporting missile technology.

China, which shares a 3,840km border with India along the Himalayan mountains, is an established nuclear power. India describes itself as having a "threshold" nuclear programme.

CONTENTS

In Bahr el Ghazal province, southern Sudan, where 350,000 people are suffering from famine, villagers wait for aircraft to drop food. Page 4

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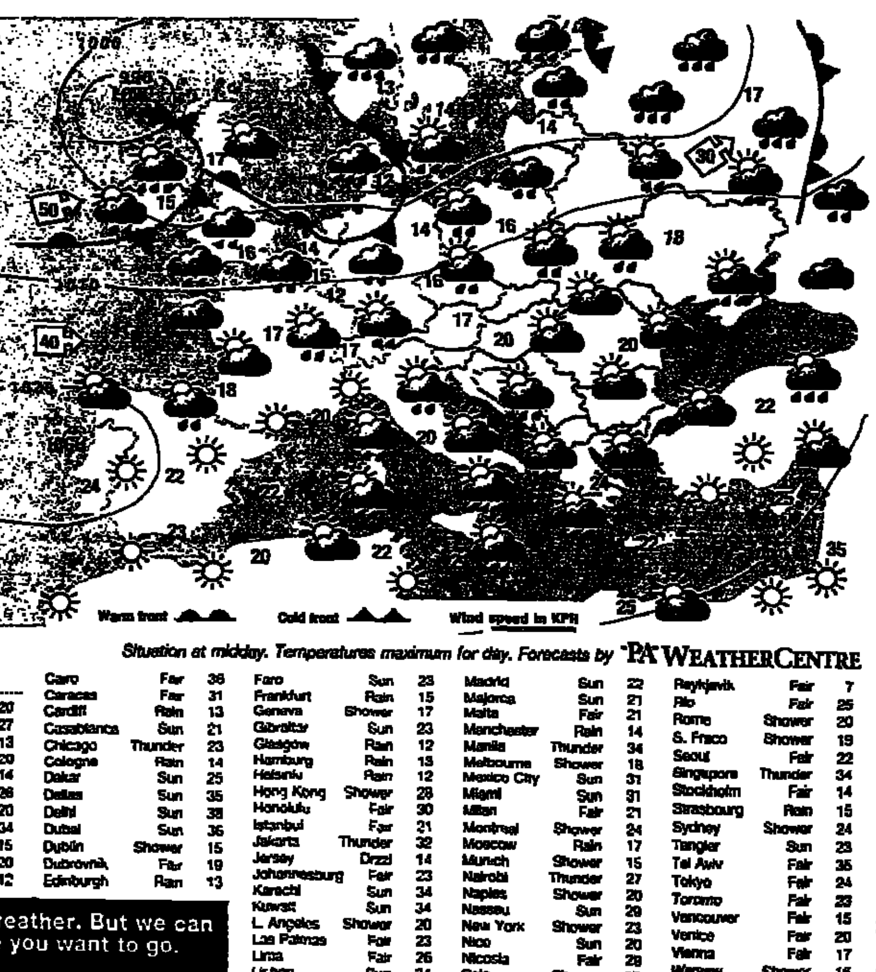
FT WEATHER GUIDE

Europe today

Northern France, the Low Countries and the far north of Germany will be cloudy with spells of rain, but most of the rain should be fairly light. With pressure low, many parts of Scandinavia will also have rain, turning wintry over the mountains. The rain will extend into eastern Europe, but central parts will be brighter with light showers. The Iberian peninsula will be dry with plenty of sunshine. The central Mediterranean will be showery, but the east will be hot and mostly sunny.

Five-day forecast

The eastern Mediterranean will have spells of heavy and thundery rain by the end of the week, but the rest of the Mediterranean will be dry and warm. Scandinavia will remain unsettled. Central and western Europe will become warm and mainly sunny, although there will be a risk of thunderstorms in the west by the weekend.



Situation at midday. Temperatures maximum for day. Forecasts by PA WeatherCentre

TODAY'S TEMPERATURES

		Maximum Celsius
Abu Dhabi	Sun	35
Accra	Thunder	32
Algiers	Fair	20
Amsterdam	Rain	14
Athens	Fair	24
Atlanta	Sun	28
B. Aires	Fair	18
B.ham	Rain	15
Bangkok	Fair	37
Barcelona	Fair	20
Beijing	Fair	27
Belfast	Shower	13
Belgrade	Fair	20
Berlin	Shower	14
Bermuda	Fair	26
Bogota	Cloudy	20
Bombay	Fair	34
Brussels	Rain	15
Budapest	Fair	20
C.hagen	Rain	12
Cairo	Fair	36
Caracas	Fair	31
Cardiff	Rain	13
Casablanca	Sun	21
Chicago	Thunder	23
Cologne	Rain	14
Dakar	Sun	25
Dallas	Sun	35
Delhi	Sun	38
Dubai	Sun	36
Dublin	Shower	15
Dubrovnik	Fair	19
Edinburgh	Rain	13
Faro	Sun	23
Frankfurt	Rain	15
Geneva	Shower	17
Gibraltar	Sun	23
Glasgow	Rain	12
Hamburg	Rain	13
Helsinki	Rain	12
Hong Kong	Shower	28
Honolulu	Fair	30
Istanbul	Fair	21
Jakarta	Thunder	32
Jersey	Drzzl	14
Johannesburg	Fair	23
Karachi	Sun	34
Kuwait	Sun	34
L. Angeles	Shower	20
Las Palmas	Fair	23
Lima	Fair	26
Lisbon	Sun	24
London	Rain	16
Lux.bourg	Rain	12
Lyon	Cloudy	17
Madeira	Fair	20
Madrid	Sun	22
Majorca	Sun	21
Malta	Fair	21
Manchester	Rain	14
Manila	Thunder	34
Melbourne	Shower	18
Mexico City	Sun	31
Miami	Sun	31
Milan	Fair	21
Montreal	Shower	24
Moscow	Rain	17
Munich	Shower	15
Nairobi	Thunder	27
Naples	Shower	20
Nassau	Sun	29
New York	Shower	23
Nice	Sun	20
Nicosia	Fair	29
Oslo	Shower	13
Paris	Shower	17
Perth	Sun	23
Prague	Shower	16
Rangoon	Fair	33
Reykjavik	Fair	7
Rio	Fair	25
Rome	Shower	20
S. Frsco	Shower	19
Seoul	Fair	22
Singapore	Thunder	34
Stockholm	Fair	14
Strasbourg	Rain	15
Sydney	Shower	24
Tangier	Sun	23
Tel Aviv	Fair	35
Tokyo	Fair	24
Toronto	Fair	23
Vancouver	Fair	15
Venice	Fair	20
Vienna	Fair	17
Warsaw	Shower	16
Washington	Thunder	26
Wellington	Fair	15
Winnipeg	Shower	16
Zurich	Shower	14

هدية من الأهل

FINANCIAL TIMES
COMPANIES & MARKETS
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INSIDE

Ajax to raise Fl 124m in offering
AFC Ajax, the Dutch football club, is set to raise Fl 123.75m ($61.65m) through a share issue priced at Fl 25 apiece. The 4.95m units offered represent 27 per cent of the club's capital, with many pre-placed among more than 15,000 fans. Page 24

Nuveen investors demand sale
The pressing issue – for the second year running – when the shareholders of John Nuveen, the quoted $50bn asset management group, meet in Chicago tomorrow, will be the group's under-performance in the booming US mutual fund sector. Some disgruntled shareholders are even asking directors to find a buyer or merger partner for the 100-year-old company immediately. Page 18

Cotton growers call for review
The Indian textile sector, the country's biggest employer, has again been hit by a "series of errors" in the season's cotton crop forecasts. The industry is calling for a review of the forecasting system after estimates of a bumper harvest led mills to reduce their cotton stocks – before a late monsoon confounded expectations. Page 26

Fannie Mae set to price fifth jumbo
The Federal National Mortgage Association (Fannie Mae) will today price its latest jumbo issue – the fifth since it launched its "reference notes" programme earlier this year. The 10-year $3bn offering, to be priced at about 33 basis points over the 10-year Treasury, takes the borrower's total jumbo issuance to just under $20bn for the year. Page 24

ICICI calls in McKinsey for synergy
Expansion in investment and retail banking has left Industrial Credit and Investment Corporation – India's second-biggest financial group – with an unwieldy assortment of subsidiaries alongside its traditional business of term lending. ICICI has thus called in McKinsey, the management consultants, to chart a business structure as it tries become the country's first universal bank. Page 17

IPE reveals emission permits plans
The International Petroleum Exchange in London revealed plans to develop trading in carbon dioxide emission permits. Emissions trading would allow companies to emit as much pollution as they had permits for. Those that cut pollution could sell or lease their surplus permits to those who could not cover the value of their emissions. Page 26

Birth of the euro

NEW FT STATISTICS
The FT's new statistical service covering data relating to European Monetary Union is today on page 23. The service covers equities, currencies, money and bonds.

COMPANIES IN THIS ISSUE

CROSSWORD, Page 26

MARKET STATISTICS

Liffe to launch 10-year euro contract

Swap rate investment will compete with German government bond futures market led by rival Deutsche Terminborse

By Edward Luce in London

The London International Financial Futures and Options Exchange will today announce plans to launch later this year the first 10-year interest rate futures contract to be denominated in the euro, the future European single currency.

The contract is based on the so-called swap rate, which is linked to the gap between the rates on fixed and floating rate borrowing, and would compete directly with the 10-year German government bond future – a market in which Deutsche Terminborse, Liffe's Frankfurt-based rival, has a majority share.

An official at Liffe, which will hold a board meeting today to discuss reforms designed to restore the exchange's tarnished reputation, said the new contract would almost certainly be traded electronically rather than on the trading floor.

Earlier this year Liffe said it would develop its own electronic trading system, which it would launch in late 1999. Today's move indicates that it will probably buy an existing system, enabling it to trade electronically before the launch of European economic and monetary union next January.

Officials say it is looking closely at the system used by Matif, France's derivatives exchange. "It makes sense to launch this contract electronically," said a Liffe official. "It is technically compatible with screen-based trading."

Liffe hopes the new contract will become the benchmark reference rate in the the 10-year euro-denominated interest rate market, which would mark a radical departure in a market dominated by instruments based on government bonds. No other derivatives exchange has launched a swaps-based contract.

The DTB, which won majority market share from Liffe in the 10-year German government bond future in January, will continue to offer a contract based on the German government bond after monetary union. Liffe hopes that banks and brokers that use the exchange will trade in its new swaps contracts rather than existing government bond contracts.

Investment bankers say pricing in the swaps market is more efficient than in the government bond market. For example, the differential between 10-year Italian government bonds and German bonds remains at about 0.25 percentage points but has fallen to just 0.05 percentage points in the 10-year swaps market. "The swaps market is far more price-sensitive and liquid than the market for government bonds," said the Liffe official.

The over the counter swaps market – where banks and brokers buy and sell contracts privately rather than by dealing through an exchange – has grown strongly in line with the general reduction in interest rates and long-term inflation expectations over the last few years. At the same time, the volume of trading in longer-term swaps agreements (up to 10 years or more) has grown markedly.

French tycoon Pinault buys 29% stake in Christies

By David Owen in Paris and David Blackwell in London

François Pinault, one of France's most colourful businessmen, has become the biggest shareholder in Christies International, buying 29 per cent of the international auctioneer's ordinary shares from Joseph Lewis, the Bahamas-based billionaire.

No price was disclosed for yesterday's deal, conducted through Artémis, Mr Pinault's holding company.

Mr Pinault will meet the Christies board in the next few days.

Shares in the auctioneer closed up 13¼p at 298p, valuing the group at £503m. The shares are still below the level of just over a year ago but well above the 255p on February 19 after news of the collapse of an attempt by SBC Warburg Dillon Read to take the group private on behalf of a consortium that included Mr Lewis.

Guy Bell, an analyst with Beeson Gregory, said the sale would rekindle bid speculation that died down after the failure of the talks with SBC Warburg Dillon Read.

Mr Pinault, the son of a Breton forester and a noted art lover, is adding the Christies stake to a list of international trophy assets that includes Château-Latour, the celebrated Bordeaux wine label, and Vail, the ski resort of the rich and famous in Colorado.

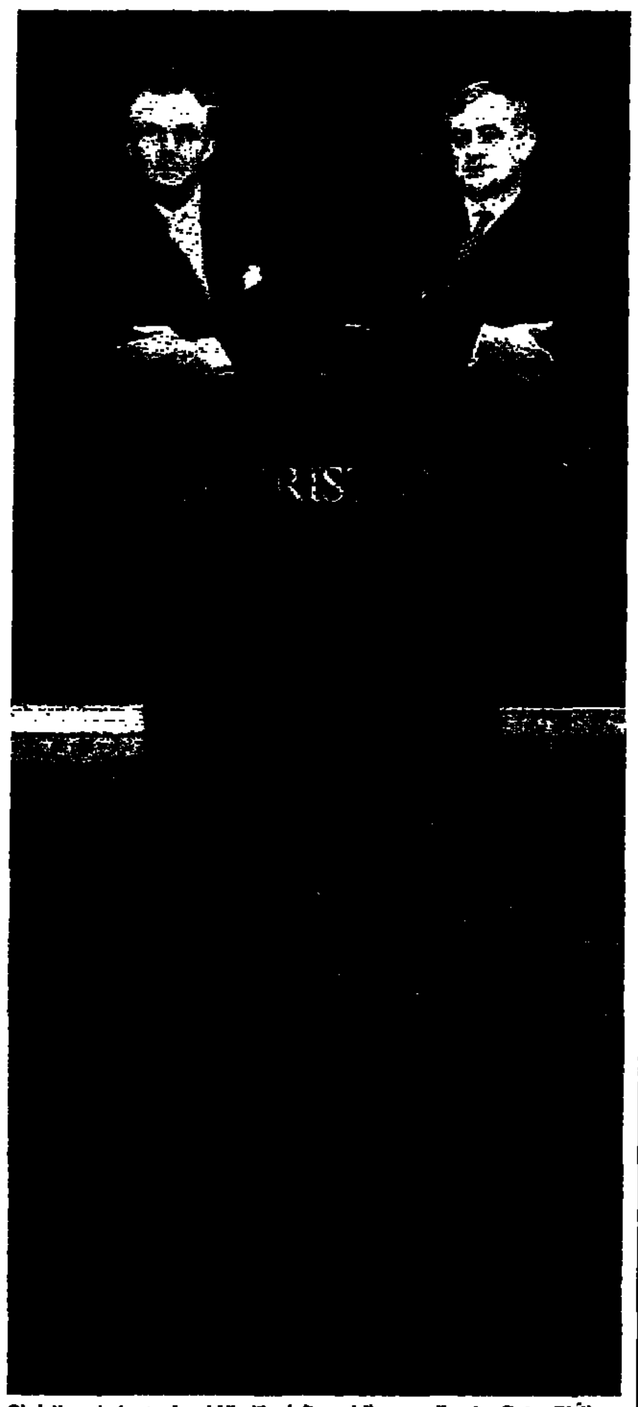
Artémis said the purchase was part of its long-term investment strategy. Mr Pinault is understood to have been attracted both by Christies' international reputation and the sentiment that markets it serves will continue to develop.

His move comes when the closed world of the French auction business is poised to be opened up to the big international houses such as Christies and Sotheby's in compliance with EU competition legislation.

The transaction is to be financed through a mixture of cash and debt. It is not yet clear whether Mr Pinault – whose favourite artists include Rothko and Pollock – or another Artémis representative is to sit on the Christies board.

Companies linked to Mr Pinault have recently embarked on a spending spree, following his abandonment last October of a FFr30bn ($5bn) hostile bid for Worms & Cie, the French financial and industrial conglomerate. Artémis owns nearly 43 per cent of Pinault-Printemps-Redoute, the French retail group, and a controlling stake in Sefimeg, the French property company.

Two years ago Christies overtook arch-rival Sotheby's for the first time in 43 years. In February it consolidated its lead with a 20 per cent rise in profits before exceptional items to £40.6m. Sales put under the hammer were also 20 per cent higher at £1.22bn, including £180m from the New York sale of the Ganz collection of twentieth century art and the Loeb impressionist collection.



Christies chairman Lord Hindlip, left, and finance director Peter Blythe

CVRD set to sell stakes in Brazil steel holdings

By Geoff Dyer in Sao Paulo

The world's biggest iron ore producer, Companhia Vale do Rio Doce (CVRD), is close to announcing the sale of its shareholdings in the Brazilian steel industry, in a move that could hasten the sector's consolidation.

CVRD, which became Latin America's biggest ever privatisation exactly one year ago, may also merge its large paper and pulp business with a rival company, said Benjamin Steinbruch, CVRD's chairman. It would be the first stage in the widely expected restructuring of the Brazilian group.

The decisions Mr Steinbruch makes about the future shape of the group will have a significant impact on the development of several of Brazil's most important industries. He said his ambition was to turn CVRD into "the first Brazilian multinational".

A controlling stake in CVRD, Brazil's biggest exporter, was bought for R$3.36bn ($3.83bn) by a consortium led by CSN, Brazil's largest steel group. It also included NationsBank of the US, a number of Brazilian pension funds and Opportunity, a Brazilian investment manager.

Mr Steinbruch said it did not make sense for CVRD to have large amounts of capital invested in steel companies. "As long as we can be sure of good long-term supply contracts [of iron ore] with steel companies, we should invest this capital in other parts of the group," he said.

Although this was a personal opinion, he said he thought the board was likely to support his view. CVRD owns 22.7 per cent of CST, 9.6 per cent of CSN and 7.7 per cent of Usiminas, giving it an important role in the Brazilian steel industry's complex shareholding structure.

Mr Steinbruch said Brazil had the opportunity to nearly double its $3bn annual exports of steel because of its low costs, plentiful raw materials and the international demand for steel plates.

However, to meet this target the industry would have to consolidate into two or three large groups with greater economies of scale and financial muscle. "This has to happen rapidly. The market will not be there if we wait for two years," said Mr Steinbruch, who is also chairman of CSN.

The first step in the consolidation process is likely to involve CST, a small Brazilian steelmaker with large growth potential.

However, the Brazilian companies face competition from Usinor of France, which is considering buying a 30 per cent stake in CST.

Mr Steinbruch said Brazil's paper and pulp sector also had the potential to become a leading force in the industry, but only if it achieved greater economies of scale.

He said his preferred course of action was to merge CVRD's paper business with another company and that the group was currently "courting" a rival.

BARRY RILEY

Trusted stats . . . one day

If there are lies, damned lies and international investment performance statistics, an impressive effort is under way to change that. An important collaboration between investment professionals in the US, Europe and south-east Asia has produced a discussion document on Global Investment Performance Standards (GIPS).

The intention is to develop the Performance Presentation Standards introduced in the US by the Association for Investment Management and Research in 1987, and harmonise them with other approaches, such as the code adopted by UK pension funds.

A fairly leisurely timetable has been adopted. A discussion period runs until the end of this year. Beyond that, some proposals may not be adopted until 2005 or even 2010, because this is a framework rather than an instant solution. But the intention is to make it possible for global portfolio managers to compete fairly for cross-border mandates.

There are three dimensions to the GIPS. First comes the technical matter of the formulae for calculating returns. Questions like cash flow, exchange rates, accrued income and tax treatments must be harmonised.

For professional funds the technical side should be relatively straightforward. Not so for amateurs: the premium performance record of the Beardstown Ladies investment club, Illinois, melted away embarrassingly when re-calculated as a time-weighted rate of return.

There was also the case of the UK's two leading performance measurement agencies – WM and CAPS – which, until a few years ago, differed noticeably in their calculations of the total return on the All-Share Index because of income timing differences. That was harmonised. But even now they differ by 30 basis points on the total return of the World ex-UK Index: 19.0 per cent for 1997 says CAPS; 19.3 per cent says WM.

But as the Americans have emphasised in naming their PPS, presentation can be an even trickier issue than calculation.

Investment firms are notorious for presenting results selectively – over odd periods or by using favourable peer group benchmarks, say.

Big problems are posed by the make-up of what the Americans call "composites": supposedly comparable groups into which funds with particular objectives or styles fall. Such composites can be manipulated – one of the best-known problems being "survivorship bias" by which only the most successful, continuing portfolios stay around to be counted, while the poor performers conveniently disappear. There are also regular attempts by managers to impress with simulated numbers or with figures for different portfolios strung together.

The suggestion is that there should be a rigorously standardised format for presenting performance, based upon five years of results. Eventually the record is to be extended to 10 years.

On composites, the approach is to insist that the included funds are selected before the start of the measurement period and not afterwards. This may eliminate deliberate bias, although the self-regulatory approach could still mean that different firms' composites are less than fully comparable.

Hence the GIPS' third leg – verification, which indeed takes as much space in the discussion document as the section on calculation and presentation. But verification will not become mandatory until 2005 or even later.

The big accountancy firms have taken on much of the US verification responsibility, although they have been criticised for focusing too much on box-ticking and for not being prepared to challenge clients over judgmental issues like the "cherry-picking" of funds in composites.

So there are inevitably gaps in the GIPS. There is a danger that enforcement will vary in quality in different countries. It remains to be seen whether national regulators will give consistent support, and whether local practices present obstacles. But progress has been impressive. Perhaps one day we will be able to trust global investment performance statistics, after all.

INSURANCE FRENCH GROUP CLOSER TO BECOMING EUROPE-WIDE OPERATOR THROUGH PLANNED BFr120bn DEALS

Axa set for full control of Royale Belge

By Neil Buckley in Brussels

France's Axa-UAP moved closer to becoming an integrated, Europe-wide insurer yesterday as it revealed plans to take full control of Royale Belge, Belgium's second biggest insurer, through deals totalling about BFr120bn ($3.26bn).

The French group is unwinding an 11-year-old joint-control agreement of Royale Belge with Albert Frère, the Belgian financier, by buying his direct and indirect stakes and launching a public offer for the 37 per cent of Royale Belge in public hands.

The deal includes selling back to Mr Frère, or to third parties, stakes in his businesses held by Axa.

Claude Bébéar, Axa chairman, said recent decisions confirming the launch of the euro strengthened the group's desire to bring together its European businesses after the merger with UAP 18 months ago, and to create a single identity.

"Our domestic market is no longer France, it is really the whole European market," he said.

After Axa's Belgian acquisition, Mr Bébéar envisaged further Benelux reorganisations, including bringing together Royale Belge and Axa Belgium, the country's sixth biggest insurer, to create a new market leader, as well as combining UAP-NR and Axa Leven in the Netherlands, and Royale UAP and Axa Luxembourg in the Grand Duchy.

European consolidation was also part of Axa's effort to become a global concern in financial services, Mr Bébéar said, drawing parallels with the Citicorp-Travelers and NationsBank-BankAmerica link-ups in the US.

The move represents further simplification of Mr Frère's complex web of businesses. Even after buying back his own shares from Axa, the secretive financier will add to his cash pile, prompting speculation about his strategy.

Analysts suggest he may increase his stake in Suez Lyonnaise des Eaux, the French utility giant of which he is already largest shareholder, with 12 per cent.

Mr Bébéar valued the Royale Belge deals at about FFr20bn ($3.3bn), or BFr120bn, half in shares and half cash. They have two main elements.

Axa-UAP is buying the 25.1 per cent held by Groupe Bruxelles Lambert, a Frère company, in Royale Vendôme – the vehicle through which the two companies jointly control Royale Belge. Royale Vendôme currently has 51.2 per cent of the Belgian insurer.

Mr Frère will receive BFr16bn in cash plus Axa shares worth BFr15bn, for a capital gain of BFr18bn. A second Frère company is selling its 2.05 per cent direct stake in Royale Belge, under the terms of the public offer.

Axa-UAP will then launch a share exchange offer for the quoted stock, inviting shareholders to swap three Royale Belge shares for five Axa-UAP shares, plus BFr21,513 in cash and one "certificate of guaranteed value", offering a further payment linked to Axa's share price in July 2001.

In return, Mr Frère will buy back – or arrange to sell to third parties – up to 13.1 per cent of Groupe Bruxelles Lambert held by Axa and Royale Belge, for about BFr20bn. Another Frère holding, Fibelpar, will buy back stakes held by Axa and Royale Belge for about BFr7.8bn.

German banks warm to Russia's invitation

By Andrew Fisher in Frankfurt

It was a mild joke doubling as a gentle rebuke to foreign banks for being so hesitant to enter Russia. "I think Russian banks can sleep well as foreign banks are not competitors in banking business," said Sergei Aleksashenko, deputy head of the country's central bank.

He was speaking as Deutsche Bank, Germany's biggest bank, opened a new banking subsidiary in Moscow last week, upgrading its representative office and combining commercial and investment banking activities.

"I would like to see foreign banks more active in Russia," said Mr Aleksashenko. He stressed that he wanted foreign banks to be active in all commercial and investment banking sectors.

Until now, there have been more reasons for caution than boldness. But German banks are gradually shedding their reservations about Russia as the economy makes faltering progress and the government weathers successive crises.

Rolf Breuer, chairman of Deutsche Bank, said Russia was developing in a way that meant "conditions for favourable business development have improved considerably".

Next month, Commerzbank will open a full banking operation in Moscow. Dresdner Bank already has commercial and investment banking activities there in a joint venture with Banque Nationale de Paris. Westdeutsche Landesbank is also in Russia. Germany is Russia's biggest trading partner, so trade settlement forms a big part of their business.

But it will take some time before foreign banks – there are fewer than 20 wholly foreign-owned banks in Russia – make up a significant slice of the Russian banking market. Mr Aleksashenko said they accounted for only 6.5 per cent of the total bank assets in the country.

The German banks hope Russia is finally on the way to solid economic and financial reform. Mr Breuer said after meeting Sergei Kiriyenko, the new prime minister, that he was impressed by the government team in Moscow.

Martin Kohlhaussen, chairman of Commerzbank, believes banks still need to be cautious. "The potential is there, but the environment – considering the legal, social and tax aspects – is not reliable enough. One has to be there, one has to be alert, one has to try business – and I believe there is a lot of business – but one has to be very risk-minded."

Deutsche plans to build its Russian operation gradually. Thus Mr Breuer did not expect the Moscow-based operation to make a significant contribution to earnings for some time. "We do not have to produce big profits in the first three years." Initially, the bank expected to break even in Russia.

Deutsche plans to increase its capital market activities, having helped arrange more than $8bn of credits and loans for Russia since the start of 1996, said Hubert Pandza, head of its Moscow operation. From there, he will also oversee activities in those former Soviet republics known as the Commonwealth of Independent States. Next month, Deutsche will open an investment banking operation in Almaty, Kazahkstan.

The bank was lead manager for the recent $230m unsecured syndicated credit for Gazprom, the Russian energy group. It is also arranging a eurobond, likely to be for less than DM500m ($281m), for SBS Agro, the fifth biggest Russian bank. Deutsche, which has played a leading role in settling the old Soviet debt problem, was lead manager in the recent DM1.25bn Russian government eurobond.

It also aims to help attract more foreign investment to Russia, as well as developing mutual funds business among Russian savers, though this is still a thin market in view of the hugely unequal spread of wealth. Nor was the bank averse to taking stakes in local banks, said Mr Breuer.


Rolf Breuer: not averse to taking stakes in local banks

Renault, Fiat to announce bus tie-up

By David Owen in Paris and John Griffiths in London

Renault VI and Iveco, the truck and bus units of France's Renault and Fiat of Italy, are poised to announce a joint bus development in a new example of consolidation in a fragmented sector.

The agreement, which has been under discussion for two years and could be announced today, is expected to cover joint development and production of a range of single-decker buses to seek a larger share of the 22,000-units-a-year west European bus market.

Bus building is seen as one of the last big manufacturing businesses to experience modernisation, as the arrival of big pan-European bus operators is expected to force busmakers to invest in modern factories and newer products.

The deal would mark a further strengthening of the ties between RVI and Iveco, which in the past 12 months have resulted in joint development of truck cabs and the purchase by Iveco of RVI's firefighting vehicle business...

However, even pooling their resources would leave them trailing the market leader, Mercedes-Benz, which accounts for nearly one in three of buses sold in the region. Iveco has about 15 per cent of the market, and Renault VI about 10 per cent.

The expected move also comes as the French company seems well on the road to recovery after accumulated losses of more than FFr1bn ($167m) in the past two years. In March, it announced that its order book had doubled in the space of a year.

"After the recovery in the second half of 1997, the Renault VI group should be back in the black in 1998," it said.

The group described 1997 as a year of growth in market share for coaches and buses. French unit sales totalled 1,970 coaches and 1,075 buses.

The Renault group as a whole marked its centenary by reporting 1997 net income of more than FFr5bn, a sharp turnround from the previous year's loss of more than FFr5bn.

Renault VI has invested heavily in new models in recent years and is making concerted efforts to cut costs.

Italy steps up privatisation programme

By Paul Betts in Milan

The Italian government yesterday followed its entry into European monetary union by accelerating its privatisation programme.

The Treasury is to launch this summer the sale of a fourth tranche of shares in Eni, the oil and gas group, as well as the institutional offering for Banca Nazionale del Lavoro, the country's fifth largest bank in terms of deposits.

IRI, the state holding company, also launched yesterday its roadshow for a L900bn ($512m) offering to institutional investors of shares in Alitalia, the national airline, and confirmed its intention eventually to dispose of its entire stake in the carrier.

IRI also plans to sell its remaining 54.2 per cent holding in Aeroporti di Roma, the Rome airport operator, in the autumn.

The fourth Eni tranche will involve a 12 per cent stake and is expected to raise about L12,000bn for the Treasury. The sale will bring the government's stake in Eni below 50 per cent, to 39.6 per cent.

The sale will coincide with the first stage in the privatisation of BNL, in which the government owns an 85.5 per cent stake, involving an institutional placement to be followed by a public offer in October.

The Treasury has already drawn six potential bidders interested in acquiring a large stake in BNL. These include five domestic banks and insurance companies – INA, IMI, Credito Italiano, Banca Intesa and Monte dei paschi di Siena – and one foreign bank, Banco Bilbao Vizcaya of Spain.

Mario Sarcinelli, BNL chairman, said yesterday he was "moderately satisfied" by these expressions of interest, although he admitted he would have liked to have seen more interest from foreign banks.

INA, which is widely seen as favourite to become BNL's strategic partner, yesterday confirmed its interest in buying control or a significant stake in the Rome bank. This would also simplify the proposed merger between BNL and Banco di Napoli, the Naples bank controlled by a holding company 51 per cent owned by INA and 49 per cent by BNL.

However, the Treasury may consider selling more than one strategic stake. INA, the insurance group, said it was willing to have partners.

The Alitalia share offer, meanwhile, will cut IRI's 85 per cent stake to 67 per cent. It will fall to 53 per cent after an issue to employees.

However, the airline's financial recovery and restructuring, as well as its privatisation, has hit turbulence because of the controversial decision to open a new Italian international hub airport at Malpensa, 65km outside Milan.

The new airport is at the centre of a political battle between Rome and Milan, with Rome fearing Malpensa will undermine its international airport of Fiumicino.

Domenico Cempella, Alitalia's managing director, yesterday insisted that Malpensa would open for business, on time, at the end of October.

Pietro Ciucci, IRI chief executive, said yesterday the Malpensa furore would not delay the sale of its remaining stake in Aeroporti di Roma, the Fiumicino airport operator and rival of Malpensa. The sale is expected to raise about L2,000bn.

SBC seeking SFr2bn from sale of BSI

By William Hall in Zurich

Swiss Bank Corporation is believed to be seeking almost SFr2bn ($1.3bn) for Banca della Svizzera Italiana, its Lugano-based private banking subsidiary, which it has to sell as a condition of its merger with UBS, its bigger rival.

It announced the sale yesterday as it was given the go-ahead by the Swiss authorities to merge with UBS.

BSI, acquired by SBC in 1991, is one of Switzerland's largest private banks with assets of SFr5.9bn and a staff of 706.

Although the bank has a chequered profit record and is less efficient than UBS's Banca di Lugano, which remains inside the enlarged group, there is likely to be considerable foreign interest in BSI. It is highly unusual for a large Swiss private bank to be put up for sale.

Liechtenstein Global Trust is considered a frontrunner for BSI, since it recently raised SFr1.5bn ($1bn) by selling its asset management business and wants to expand in private banking.

However, BSI could also fit into the strategic plans of Edmond Safra, one of the world's most successful private bankers, Merrill Lynch, Robeco or HSBC.

The sale of BSI was one of a number of conditions laid down by the Swiss Competition Commission. The enlarged group must also sell Solothurner Bank, a cantonal bank rescued by SBC, and Bosslab Corp, which provides information technology for various retail banks.

The commission also required the enlarged UBS to sell up to 35 branches in areas where it has a particularly large market share. To prevent competitors "cherry-picking" the best branches, it has also insisted that a group of 25 branches, with a network in all three main language areas of Switzerland, should be sold to a single buyer who wants to establish a Swiss retail bank.

It has also ordered UBS to maintain at pre-merger levels until the end of 2004 certain small business loans that will increase because of the merger.

UBS and SBC have accepted the conditions, which they describe as "stringent but tolerable". The new bank, which in terms of assets will be the world's third biggest, still has to win approval from the US regulatory authorities.

NEWS DIGEST

BANKING

One-off gains lift MeritaNordbanken

MeritaNordbanken, the Swedish-Finnish bank formed in a merger last year, yesterday overcame flat net interest income to post a 67 per cent leap in first-quarter pre-tax profits, driven by non-recurring gains. The profits climbed from FM1.88bn to FM3.13bn ($579m), helped by strong performance of the bank's bond portfolio and exceptional gains of FM1.4bn from a share disposal and a non-recurring dividend.

Stripping out non-recurring items, pre-tax profits amounted to FM1.7bn. The bank stressed the first-quarter figure from last year was also inflated by one-off gains. Net interest income for the latest quarter was unchanged at FM2.68bn. Overall, lending rose 8 per cent. **Greg McIvor, Stockholm**

DNB ousts chief executive

Den norske Bank, Norway's biggest, last night announced it had ousted Finn Hvistendahl, its chief executive, because it needed a new leader to confront new challenges. It said Mr Hvistendahl would stand down on June 30 to make way for Svein Aaser, deputy head of Nycomed Amersham, the Anglo-Norwegian drugs group. **Reuters, Oslo**

FOREST PRODUCTS

AssiDomän up 27% in quarter

AssiDomän, the Swedish paper and packaging group, yesterday announced a 27 per cent increase in first-quarter profits, confirming the current upswing in the forestry cycle. Pre-tax profits advanced from SKr360m to SKr456m ($59.3m) on turnover up from SKr4.8bn to SKr5.7bn. The improvement was underpinned by strong earnings growth at Assi's flagship packaging division, where operating profits jumped from SKr105m to SKr141m. **Greg McIvor**

METALS

FFr1bn pay-out to Eramet

Eramet, the nickel, manganese and high speed steels producer, is to receive FFr1bn ($167m) in compensation from the French government for agreeing to swap its Koniambo nickel deposit in New Caledonia for the smaller Poum deposit owned by Société Minière du Sud Pacific.

Mining rights to the two deposits are to be transferred to an independent legal entity until Falconbridge, the Canadian mining group, completes a feasibility study on a 54,000 tonnes a year nickel smelter on New Caledonia and gives the go-ahead for construction.

Eramet is still 55 per cent owned by a French state holding company. France's former centre-right government caused a storm among minority shareholders when it threatened to take Koniambo from the company to help further its political aims for New Caledonia.
Kenneth Gooding, Mining Correspondent

TOBACCO

Tabacalera posts 42% advance

Tabacalera, the Spanish tobacco group, followed its recent privatisation with the announcement of a 42 per cent jump in first-quarter net profits to Pta5.75bn ($37.9m).

Operating profits almost doubled to Pta6.07bn against Pta3.11bn in the same period last year. The company said the improvement reflected growth in all three of its main business areas – cigarettes, cigars and distribution – as well as cost control measures. **David White, Madrid**

CARS

Audi confirms Lamborghini talks

Audi, Volkswagen's luxury car division, yesterday confirmed it had held talks with Lamborghini, the Italian sports car manufacturer. The negotiations centred on the use by Lamborghini of Audi engines, but the German carmaker indicated that a possible takeover by VW of Lamborghini was also discussed.

"We do not comment on speculation. We can say, however, that in the course of the discussions there was discussion about other possibilities," Audi said.

The German carmaker is currently preparing a fresh bid for Rolls-Royce Motor Cars, the UK luxury car company. The management of Vickers, the UK industrial concern, has agreed to sell Rolls-Royce to BMW. However, VW is hoping to persuade Vickers' shareholders to overturn the decision. **Graham Bowley, Frankfurt**

PACKAGING

KNP unit ahead

The packaging unit of KNP BT, which the Dutch group is seeking to sell, lifted first-quarter operating profits by 10 per cent to Fl 68m ($34m). This was in spite of a decline in sales to Fl 722m from Fl 779m, reflecting previous divestments from that operation.

Group net earnings were ahead 21 per cent to Fl 63m. This was helped by a reduction in the interest bill from Fl 45m to Fl 32m. KNP last year sold its papermaking division to Sappi, of South Africa. **Gordon Cramb, Amsterdam**

COMPANIES & FINANCE: ASIA-PACIFIC

INDIA INDUSTRIAL GROUP FOCUSES ON CONSOLIDATION IN FIBRE, CEMENT AND IRON AFTER 13% DECLINE

Falling prices take toll on Grasim

By Krishna Guha in Bombay

The bleak trading environment facing much of India's heavy industry was evident yesterday when Grasim, the diversified industrial flagship of the A. V. Birla group, reported a 13 per cent fall in pre-tax profits to Rs2.6bn ($65m) for the year to March 31.

Grasim, which produces cement, textiles, iron, pulp, soda and viscose staple fibre, blamed the decline on weak prices.

Production increased in almost all its divisions and sales rose 12 per cent to Rs40bn, but the group was hit by overcapacity and faltering demand.

The board said the results were "extremely encouraging when viewed against the backdrop of the worst downturn of its kind in many years in all the commodity sectors in which the company operates".

It added: "Grasim's growth strategy is focused on further consolidation in the key sectors in which it continues to be a dominant player – that is, viscose staple fibre, cement and sponge iron."

The company's accounts show cement prices were 16 per cent lower last year than in the previous financial year.

Domestic sponge iron prices were down 8 per cent, while viscose staple fibre prices were flat.

The decline in profits was less precipitous than it appeared, as last year's results were flattered by a disposal of shares in Indian Rayon to Hindalco, both A. V. Birla group companies.

Operating profits were stable at Rs5.7bn. However, depreciation rose from Rs1.5bn to Rs1.7bn, while the tax burden went up from Rs410m to Rs450m.

There are few signs of an imminent recovery. Analysts said the company was caught between rising input costs and falling end-product prices. In the past year, government-controlled transport, coal and power tariffs have increased sharply.

However, most analysts dismissed the company's claim that "the south-east Asian meltdown also impacted Grasim's profitability", saying that domestic overcapacity was a much bigger problem.

"Conditions in sponge iron are tough, in cement they are excruciatingly tough," said Jal Irani, an analyst at Jardine Fleming.

Grasim has suffered more than most cement producers because it is based in Madhya Pradesh, in central India, far from more lucrative markets in the north-west and south of the country.

The one glimmer of light comes from Grasim's viscose staple fibre division, which lifted profits.

Grasim is the world's biggest producer of viscose staple fibre and dominates the domestic market, which gives it some leverage over prices.

The fibre is also a product which ultimately sells to the household sector, where demand remains buoyant in spite of India's industrial slowdown.

UCPB delays annual meeting

By Justin Marozzi in Manila

United Coconut Planters Bank has delayed its annual shareholders' meeting until a new administration is elected, following the recent move by Eduardo Cojuangco, a business associate of the late president Ferdinand Marcos, to regain control of the government-sequestered Philippine bank.

UCPB, which administers a 27 per cent stake in San Miguel, the food and beverage group, announced the postponement in a newspaper advertisement yesterday, after Mr Cojuangco last week petitioned the anti-graft court to allow him to vote a 35 per cent stake in the bank.

The meeting, which was due to be held on May 14, will now take place on August 14 "to give the courts adequate time to resolve the issues", UCPB said.

The move by the bank comes amid pre-election activity linked to legal disputes dating back to the Corazon Aquino administration, which sequestered shares in a number of companies on the grounds that the investments had been made by Marcos cronies using public money.

The Philippines holds national elections on May 11, and Joseph Estrada, vice-president and the leading contender to replace President Fidel Ramos, would be expected to look more kindly on Mr Cojuangco's tussle with the government.

Efforts by Mr Cojuangco, former chairman and chief executive of UCPB, to get back into the bank – where the board of 15 consists entirely of government appointees – are believed to be linked to his legal victory last month, when the anti-graft court allowed him to vote 20 per cent of shares in San Miguel for the first time in seven years.

Over the weekend, however, Mr Ramos issued an executive order lifting the sequestration on coconut levy funds, assets and related companies worth 100bn pesos ($2.5bn) which were established during the Marcos administration to develop the coconut industry and administered by Mr Cojuangco, who was then head of the government coconut authority. A million coconut farmers paid levies and invested in companies such as UCPB and San Miguel.

Estelito Mendoza, the lawyer representing Mr Cojuangco, yesterday attacked the Ramos order, saying that by declaring the coconut levy a public fund, the president was ignoring an earlier Supreme Court ruling defining it as a private fund with a public interest. "That is practically confiscating property," he said.

Good bet: Might and Power (on the rail), ridden by Jim Cassidy, wins last year's Melbourne Cup at Flemington racetrack AP

NSW sets prices for betting sell-off

The Australian state of New South Wales yesterday released indicative pricing details for the sale of its betting agency, Tab, which is expected to raise about A$1bn (US$644m), AP-DJ reports from Sydney.

Tab, which is the country's largest betting business and the fifth largest in the world in terms of turnover, is scheduled to list on the Australian Stock Exchange on June 22, one day after final pricing details are known.

The public offer document, released yesterday, sets a maximum price of A$2.05 a share for retail investors, who are also promised a special entitlement to 25 per cent more shares than the 700-share minimum if they register their interest before midnight on Friday.

Other retail investors who receive shares via their shareholders, will pay a maximum of A$2.15 a share, while the institutions, who are limited to 35 per cent of the offer, will bid for stock through book-building. The offer document has suggested institutions submit requests for between A$1.80 and A$2.20 a share.

The offer of 450m shares represents 90 per cent of Tab, with the remaining 10 per cent already claimed by News Corporation and Publishing and Broadcasting as part consideration for the sale of their jointly owned Sky racing channel to Tab, agreed earlier this year.

Tab, the exclusive operator of off-course totalisers in New South Wales, is forecast to post earnings before interest and tax of A$91.2m in the current year, rising to A$96.7m the following year.

NEWS DIGEST

PALM OIL

Foreign exchange losses hurt London Sumatra

London Sumatra Indonesia, one of the largest palm oil and rubber plantations, said foreign exchange losses of Rp75.7bn ($9.4m) lowered 1997 net profits by 5 per cent and warned that high taxes and drought could hamper 1998 results.

Lonsum said net profits were Rp76.7bn, down from Rp80.6bn, while operating profits had increased 24 per cent to Rp126.0bn. The depreciation of the rupiah lifted the rupiah value of $122m in syndicated loans and $30m in forward swaps for dollars. Some are due this month, but the company did not report progress on rescheduling with its creditors.

The company said a new export tax of 40 per cent, replacing an export ban that hit first-quarter earnings, would hurt future earnings. Last year's prolonged drought is likely to depress production volume, it added.

Lonsum cut operating expenses by 19 per cent but its sales revenue, listed in rupiah for a dollar-denominated commodity, rose only 19 per cent despite a sharp depreciation of the rupiah in the second half of 1997. **Sander Thoenes, Jakarta**

MALAYSIA

Ekran buys back Bakun issue

Ekran, the Malaysian construction company, has bought back the M$300m (US$82m) bond issue intended to raise money for the Bakun hydro-electric dam project. The purchase, for M$223.9m, was made because the government deferred and then assumed control of the huge dam project when the regional financial crisis took hold of Malaysia.

Ekran said it would save M$6m a year in interest by buying all of the five-year, 2 per cent, bank-guaranteed redeemable bonds. **Sheila McNulty, Kuala Lumpur**

AIRLINES

Qantas lifts stake in Fiji carrier

Qantas, the Australian airline, will increase its stake in Fiji's Air Pacific from 17.5 per cent to 46 per cent in a F$26m (US$8m) deal announced yesterday by the Fiji government.

The sale, amounting to 28.5 per cent of the government's holding, is in line with its divestment policy and will leave the state with 51 per cent of the airline.

Air Pacific has reported profits for more than 10 years. It operates flights to Los Angeles, Tokyo, Honolulu, Australia, New Zealand and throughout the Pacific islands.

AP-DJ, Suva, Fiji

PHILIPPINES

Provisions jump at FEBT

Provisions at Far East Bank & Trust, the Philippines' fifth largest bank by assets, jumped more than fivefold, from 97m pesos in the first quarter last year to 513m pesos ($12.7m), the bank said yesterday.

FEBT said net profits rose 1.3 per cent, from 682m pesos to 691m pesos, limited by the increase in provisions to adapt to the difficult business environment produced by the Asian crisis.

"It looks as though the bank is setting itself up to ride out the challenges ahead," said one banking analyst at a foreign brokerage. "But what I'd like to know is whether non-performing loans also rose fivefold." **Justin Marozzi, Manila**

ICICI plots course to become 'universal' bank

Indian group is seeking to develop synergies within a growing assortment of subsidiaries, writes **Krishna Guha**

Industrial Credit and Investment Corporation – India's second biggest financial institution – has called in McKinsey, the management consultants, to chart a new business structure as it pushes ahead with plans to become the country's first universal bank.

The move follows aggressive expansion in investment and retail banking, which has left ICICI with a fast-growing but unwieldy assortment of subsidiaries alongside its traditional business of term lending.

"There is an urgent need to synergise group-wide activities," says K.V. Kamath, managing director. "The strengths are there – but they are not synergised." He says a change in structure is necessary to ensure the "various business operations do not conflict".

The McKinsey review will be greeted with relief by investors who admire ICICI's drive but fear it lacks the organisational capacity to expand rapidly while controlling risk.

Last month ICICI announced a 40 per cent increase in net profits to Rs10.8bn ($272m) for the year to March 31, but also revealed a jump in non-performing assets from 6.8 per cent of the total to 7.6 per cent. This is worrying, given a 27 per cent rise in assets.

Earlier, J.P. Morgan pulled out of its I-Sec investment banking joint venture with ICICI, citing differences in strategy and competition from the parent company. Mr Kamath says he was committed to building up I-Sec as a wholly owned subsidiary, but this will not be easy, as many of its top staff are poised to quit to join J.P. Morgan.

The decision is driven by a belief that the "universal bank" is the blueprint for the future of Indian banking. This is in sharp contrast to the past, when the industry was split into separate segments by regulation.

ICICI, as a development finance institution, was not allowed to accept deposits from retail investors, offer working capital loans, or develop investment banking. So it set up subsidiaries instead.

"Over the past 10 years we have created a commercial bank, an investment bank, an asset management company and a retail financial services company as associates to mimic a universal bank," says Mr Kamath.

He says the collection gave ICICI the full range of products. But managing an ad hoc structure is difficult. "It is a transitional arrangement. The only reason the subsidiaries were set up was that ICICI was unable to get into each of these businesses itself." Now, following deregulation, it can. The McKinsey review is likely to recommend that ICICI regroup its banking subsidiaries under a central holding company, putting in place "Chinese walls" to avoid conflicts of interest and ensure different companies do not compete against each other.

'Retail funds are unavoidable – the money market and debt market are not deep enough to meet our needs' - K.V. Kamath, managing director.

"We have to look at what ICICI bank [a retail bank] and ICICI credit [a financial services company] are doing," says Mr Kamath. "Their customer base is the same in many ways." He plans to introduce common technology platforms allowing group companies to cross-sell products and transfer data.

The organisational shake-up will reflect ICICI's determination to continue its advance into retail and commercial banking. It has targeted short-term working capital loans. "Going forward I can clearly see 35 to 40 per cent of my business in this area," says Mr Kamath.

This will bring ICICI into more direct competition with India's established commercial banks, which are also pushing into its core business of term loans.

ICICI has one big advantage: as a private-sector organisation, it has more flexibility in selecting staff and paying market rates than public-sector banks. It also has financial muscle – only State Bank is comparable in terms of assets. But banks have the advantage of big retail networks, which bring in low-cost deposits which are ideal to finance short-term corporate loans.

If ICICI is to achieve its ambitions it needs retail money. "Retail funds are unavoidable – the money market and debt market are not deep enough to meet our needs," says Mr Kamath. He aims to increase loans by between 20 per cent and 25 per cent a year, an annual disbursement of about $4bn.

To finance this, ICICI has launched a series of retail bond issues. But analysts believe it needs to complement bond issues with a more active presence on the ground.

At the end of last year, ICICI agreed to buy ITC Classic – the troubled financial services arm of Indian Tobacco – giving it a network of more than 1m depositors.

It is widely seen as a potential buyer for one or more of India's mid-sized banks. However, Mr Kamath is unenthusiastic. "In the Indian context it is often easier to build de novo than acquire something and pay a fancy price."

Nor is Mr Kamath keen on acquiring a low-technology "bricks and mortar" branch network, and "even a strategic merger would have to add to the bank's capital or products," he adds.

This attitude is informed by Mr Kamath's belief that Indian banks face a tough few years as India's economy goes through structural change. "There will be pain all round and pain in the banking system."

Taiwan 'set to lead Japan in notebooks'

By Laura Tyson in Taipei

Taiwan is likely to overtake Japan as the world's biggest producer of notebook computers this year as falling prices in the personal computer industry force a shift to nimble and cost-effective Taiwanese suppliers, according to a Taiwanese notebook maker.

I. J. Lee, president of Twinhead International, predicts Taiwan's world market share of notebook output will jump from 34 per cent in 1997 to 45 per cent in 1998. Last year Taiwan made 4.7m notebooks, compared with Japan's 5.6m, of a total worldwide of 14m.

The trend that is driving down prices for desktop PCs to below US$1,000 is having a knock-on effect on the notebook segment as well as components. As a result, Japanese notebook makers, historically reluctant to produce offshore, may be forced to go to Taiwan, Mr Lee says.

He predicts that the next wave in the PC cycle will be "sub-$1,000" notebooks. "If we can reduce the price of a notebook to three digits, this will spark a big boom in the notebook market," he said. "Maybe this can be achieved by the first quarter of next year.

"If the price of a notebook can be brought down closer to that of desktops, then many users will opt for the convenience of a laptop."

However, electronics analysts caution that much depends on the Japanese yen.

"Japanese suppliers used to target the high end of the market. The low-price trend has forced them to go mid-market and they will need to do more outsourcing," said Liu Chi-tung, of SBC Warburg. "All this is definitely going to help Taiwan, but how much depends on the yen."

Two Japanese groups, Fujitsu and Hitachi, have already shifted a portion of their notebook manufacturing to Taiwanese suppliers. Dell, the US PC maker, used to make notebooks in Japan, but now outsources in Taiwan.

Several factors are fuelling this trend. First, Taiwanese manufacturers are faster and more flexible than their Japanese or Korean counterparts, electronics analysts say. Their design cycle is shorter, so they can respond to changes in the market more quickly and bring out new models sooner. At the same time, they can manufacture products of equal quality at lower prices.

Another factor is that Japan has lost its stranglehold on a key component – the liquid crystal display screen, the most expensive part of the notebook.

Korea began producing LCDs in the third quarter of last year and prices have since plummeted. For example, the cost of a 21.1 inch LCD has fallen from US$700 a year ago to US$350, and may well fall further.

Prices of LCDs are expected to fall again in late 1999 or early 2000, when Taiwan's first LCD factories begin production.

Acer, Taiwan's biggest PC maker, recently announced a joint venture with International Business Machines of the US to make LCDs. Winbond, a Taiwanese chipmaker, also recently disclosed plans to co-operate with Toshiba to make LCDs.

DEBT ISSUES MARKET GIVES MIXED RESPONSE TO OFFERINGS FROM AMAZON.COM AND OXFORD HEALTH PLANS

Junk bond market surge set to continue

By John Labate in New York

The year's surging high-yield, or junk bond, market in the US is expected to continue this week with two of the more unusual, and controversial, new corporate debt issues.

Amazon.com, the online book seller, was late yesterday expected to launch $275m in senior discount notes with five-year zero coupon. Analysts expect the yield to range from 10 to 10.25 per cent.

The other offering is $200m in new issues by Oxford Health Plans, the troubled managed care provider. The Oxford issues are expected to be priced to yield 11 per cent.

The two deals have drawn admirers and detractors in the corporate market for very different reasons.

Amazon.com has been greeted by investor enthusiasm in the stock market, with its share price rising from $18 at its initial offering in early 1997 to $94.75 in early afternoon trading yesterday.

But analysts in the bond market have difficulty predicting how the fast-changing world of internet commerce will alter over the life of the new issues, as well as how to value a company with few tangible assets.

"Over the course of the 10-year life of this bond the company could be a Microsoft or it could be out of business," said Gary Goodenough, a portfolio manager at Loomis Sayles, an investment advisory firm.

The structure of the Amazon.com offering reflects the recent popularity of zero coupon issues, by which no payments are made until the note's expiry.

"The economics of the internet service providers haven't quite been worked out yet, and you cannot be certain that Amazon's cash flow will be sufficient to meet its debt service five years hence," said Steven Ruggiero, director of high yield security research at Chase Securities.

What Amazon.com has behind it are surging demand figures for its internet-based business, reflected in its fast-growing revenue performance.

Oxford Health Plans presents a different set of risks for debt analysts.

The company has faced a series of billing and other financial difficulties, producing net losses of $45.3m in its most recent quarter.

In addition, the company's chairman resigned recently and it faces a lawsuit from a group of physicians over the issue of payment of fees.

As a result, Oxford's stock price has taken a tumble, falling from $87¼ last July to $17⅛ in afternoon trading yesterday.

However, some portfolio managers are more optimistic about the company's future prospects, and consider the coming bond offering as a chance to ride a turnaround.

This week a total of $2.8bn in corporate junk bonds are expected to reach the market, according to Securities Data Company.

Argentina's utilities pressured to review fees

By Ken Warn in Buenos Aires

Argentina's privatised utilities and a handful of other companies are coming under pressure from investors to review the hefty management fees paid to controlling shareholders.

The present value of management contracts can exceed 20 per cent of companies' market capitalisation, according to a report by brokers Robert Fleming Argentina, and renegotiation could have a big positive impact on company valuations.

The fees are a legacy of Argentina's main privatisation thrust at the beginning of the decade, when high management fees were offered as a sweetener for foreign buyers.

They have no significant parallels elsewhere in Latin America.

Most of the contracts, due for renewal around 2000, are based on pre-tax profits rather than market capitalisation, said Gonzalo Pángaro, analyst at Robert Fleming. This encouraged managements to seek growth at any cost, rather than creating value for all shareholders, he claimed.

"As we get closer to these contracts' maturity, investors will get the chance to see which companies really want to maximise shareholders' wealth and which want to take them for a ride."

Listed utilities pay the management fee to a technical operator, which shares it with other controlling shareholders.

Telefónica de Argentina, one of two basic telecommunications operators created after the break-up of Entel, the state telecoms concern, pays a management fee to Telefónica de España equivalent to 9 per cent of annual earnings, plus the operator's expenses.

In the 1997 fiscal year, Telefónica de Argentina paid a management fee totalling a "chilling" $145.3m, or more than 31 per cent of earnings, the Flemings report said.

Telecom Argentina, the country's other basic telecoms provider, last year handed about 32 per cent of earnings over to technical operators France Telecom and Italy's Stet.

Shareholders excluded from the fee arrangements are increasingly questioning them in meetings with companies. Robert Fleming argues that while the contracts are unlikely to be changed now, the fees should be lowered substantially when current contracts expire.

The privatised utilities are not the only companies paying out significant management fees to controlling shareholders.

Banco de Galicia, the biggest Argentine-owned private sector bank, has traditionally paid its board 12 per cent of pre-tax profits as a management fee.

Property company IRSA, in which George Soros, the international investor has a large stake, has just discontinued a management fee system.

Present value of management fees assuming they are renewed

US$m	1998*	1999*	2000*	Continuing value	Total present value	Market capitalisation	Present value/ market cap (%)
TGS	17.5	16.7	15.9	[illegible]	288.2	[illegible]	[illegible]
Metrogas	6.4	6.1	5.8	85.5	[illegible]	[illegible]	[illegible]
Central Costanera	2.1	2.0	1.8	31.4	37.9	401.2	9.4
Central Puerto	1.5	1.4	0.3	5.7	8.9	222.2	4.0
Telefónica de Argentina	147.2	142.8	138.2	2,307.2	[illegible]	[illegible]	31.1
Telecom	99.1	96.4	91.4	[illegible]	1,951.8	7,207.4	27.2
Banco Galicia	26.6	23.7	24.6	460.8	596.1	[illegible]	[illegible]
Banco Rio	17.8	20.2	21.1	382.7	441.9	2,010.9	21.7
Irsa	0.8	0.8	0.9	0.8	3.0	[illegible]	[illegible]
Cresud	1.5	1.4	1.4	23.9	28.1	264.9	11.6

Source: Company reports; Flemings Research. *Estimates

Probe clouds Cendant's figures for first quarter

By Richard Tomkins in New York

Cendant, the US franchising and direct marketing company stricken by worries about accounting irregularities, yesterday reported net profits of $229.5m for the first quarter, and said it believed the figure was correct.

No comparative figure was given for the first quarter of last year because the discovery of potential irregularities means the previously announced figure of $166m will probably be revised.

Last month, Cendant said the expected revision would cut an estimated $100m to $115m from the company's reported operating profits of $872m for the whole of 1997.

Announcing this year's first-quarter results, Cendant warned that the investigation into the potential irregularities could affect these figures, too.

But it later issued a clarification, saying the results had been compiled in accordance with appropriate accounting practices and reflected the elimination of any potential historical accounting irregularities currently under investigation.

Revenues were $41.4bn and earnings per share were 26 cents, one cent ahead of the consensus estimate of analysts surveyed by the First Call research service.

Cendant was created last year through the merger of HFS, a franchising company with interests spanning hotel chains and car rental agencies, and CUC International, a direct marketing company. Last month it completed the acquisition of the UK's National Parking Corporation for $1.3bn.

The potential accounting irregularities were discovered in the accounts of the former CUC. But Cendant said yesterday that more than 80 per cent of its first-quarter net income came from Cendant business units not affected by the accounting troubles.

Cendant said it had postponed its annual meeting from May 19 to autumn this year pending completion of restated financial statements for last year.

In early trading the shares were down $1½ at $24⅝.

UK plans, Page 20

Kimberly-Clark unveils fresh pruning move

By Tracy Corrigan in New York

Kimberly-Clark said yesterday that it would close a pulp mill in Mobile, Alabama, in September 1999 and sell the associated woodlands operations, as part of its strategy of reducing its reliance on internally produced pulp.

The company has previously announced plans to sell its pulp mills in Terrace Bay, Ontario, and Miranda, Spain, but plans to continue to operate pulp mills in Everett, Washington and Pictou County, Nova Scotia.

Following these disposals and the closure announced yesterday, the company will have reduced the percentage of virgin fibre it produces for use in its own products from nearly 70 per cent to about 20 per cent, in line with its target.

"We said last year we would like to reduce reliance on internally produced pulp and this helps us to achieve that," the group said.

Kimberly-Clark has been trying to transform itself from a cyclical pulp and paper company into a more highly-rated consumer goods company, but the transition has proved more difficult than the company had expected.

Last year, the company announced a restructuring including the loss of 7 per cent of the workforce worldwide and an $810m pre-tax charge.

That restructuring was Kimberly-Clark's second since 1995, when it acquired Scott Paper – previously under the stewardship of the notoriously aggressive Al "Chainsaw" Dunlap – its largest acquisition to date, and which has proved difficult to integrate.

Furthermore, the company's earnings have been hit by overcapacity and price wars in the tissues market in Europe.

Kimberly will continue to operate its Mobile tissue mill, which makes bathroom tissue, paper towels and napkins, and plans to invest $100m in the facility over the next few years.

The pulp plant, which is hampered by high energy costs, produces pulp from the company's timberlands for use in the tissue mill, Kimberly said.

NEWS DIGEST

INSURANCE BROKING

Aon Corporation leaps $137m into the black

Aon Corporation, the Chicago-based insurance broking group, yesterday announced first-quarter profits of $137.7m after tax, up from a $2.7m loss in the same period of 1997. The deficit in 1997 resulted largely from special charges, while the company paid a substantially larger tax charge in the first quarter of 1998. Before both tax and special items, profits increased 48 per cent to $237.8m in the latest three months, compared with $160.2m in the same period of 1997. Earnings per share were 80 cents, exactly in line with the average of analysts' forecasts. Total revenue for the quarter was $1.56bn, up from $1.35bn.

Pat Ryan, Aon's chairman, acknowledged that revenue growth on the insurance broking and consulting side had derived partly from acquisitions.

Operating profits from the insurance underwriting activities were flat, "reflecting start-up costs in the worksite marketing initiative and the continuing run-off of the specialty property and casualty and North American credit underwriting lines," he said.

Total revenue from the insurance broking and consulting businesses rose to $1.04bn, up from $880.7m, while profits ahead of special charges and tax increased to $183.3m against $108.6m. On the underwriting side, revenues were $475m, up from $445.4m, with profits standing at $64.5m, against $64.8m. However, Mr Ryan added consolidation of recent acquisitions in the broking area was "on target", and said the group remained "confident" of its position.
Nikki Tait, Chicago

NETWORKING

Intel forms alliance with Fore

Intel has formed a partnership with Fore Systems, a leading supplier of high-speed networking systems, in the latest move by the chipmaker to expand its networking equipment business. Intel, the world's largest chipmaker, has set its sights on building a multi-billion-dollar networking business to compete with companies such as Cisco, Lucent and Bay Networks. Currently, the networking division has annual revenues of under $1bn.

Intel said such alliances would be part of the expansion plan. Fore is a leader in asynchronous transfer mode (ATM) networking technology, while Intel has previously focused on fast Ethernet technology. ATM and Ethernet are alternative networking protocols. Together the two companies plan to create technology and combine the benefits of both ATM and Ethernet for use in corporate networks.

ATM is typically used in large-scale networks where it provides a very high-speed "backbone" technology to link, for example, a network at one corporate site and another. It is often used to consolidate voice, video and data networks.

Ethernet, which is typically deployed on local networks, is known for its ease of use and lower costs.
Louise Kehoe, San Francisco

AIRLINES

Continental in Brazil link

Continental Airlines and Vasp, the US and Brazilian airlines, yesterday signed a code-sharing agreement covering 35 flights a week between the US and Brazil.

Gordon Bethune, Continental's chief executive, said the agreement was part of Continental's plans to build on previous agreements with Northwest, Virgin Atlantic, KLM, Air France and Alitalia. The alliance was the third biggest in the world and would aim to become bigger than "the other two" – a reference to the Star Alliance formed last year by United Airlines, Lufthansa, Air Canada, SAS, Thai International and Varig, Brazil's biggest airline, and a similar agreement between United, Lufthansa and All Nippon.

"The world is sorting out into global alliances," Mr Bethune said. "Airlines need to offer passengers the same standards in fares and service whether they're flying to São Paulo or Jakarta." The agreement begins operating on July 1.

Vasp has similar agreements with three other South American airlines. **Jonathan Wheatley, São Paulo**

Disgruntled Nuveen investors fire a shot across the bows

Complaints about underperformance and management compensation have led some shareholders to demand a sale, writes **Nikki Tait**

Stand by for a bunfight when shareholders of John Nuveen, the quoted $50bn asset management group, meet in Chicago tomorrow.

At issue, for the second year running, is the group's relative underperformance in the surging US mutual fund business, coupled with a management compensation scheme which critics say is hopelessly outdated and seems to guarantee top executives multi-million-dollar rewards regardless of underlying results.

So bad is the situation, according to dissident shareholders, that they are asking that directors "immediately initiate discussions with possible purchasers relating to an acquisition of Nuveen by merger or tender offer".

From the management side comes a plea for more time, as it seeks to transform the company from being a municipal bond specialist into a broadly-based asset management group targeted at people facing retirement. "We've taken criticism for the pace," says Tim Schwertfeger, chief executive. "But this is a 100-year-old company and if you're going to transform it, you don't do it overnight."

Nuveen's history is the one thing not in dispute. Formed in the late 1890s, for most of its life it functioned as an investment banking business specialising in municipal bonds. Nuveen did its first underwriting for a Minnesota-based waterworks in 1898, and has since handled anything from hospital bonds to highway funding. In the 1960s and 1970s, it began to package municipal securities into a mix of closed-end and open-ended funds, which were then sold on to retail investors.

In 1974, Nuveen was snapped up by St Paul Companies, the Minnesota-based insurance group, for a paltry $10m. Two decades later, St Paul decided to float off a minority stake; today, about 22 per cent of Nuveen's shares are publicly held and the group is capitalised at about $1.2bn.

A raging bull market for equities, however, has not made Nuveen's life in the public arena easy. Municipal bond-based funds fell badly out of favour five years ago – although the closed-end nature of many of Nuveen's vehicles meant the company continued to draw solid management fee revenues.

In 1993, according to Mr Schwertfeger, a decision was taken to broaden Nuveen's asset management objectives and focus on servicing the growing pre-retirement segment – sensible, given that many buyers of its municipal bond-based funds were older, risk-averse investors.

But Nuveen then spent two years looking for expertise to handle the additional equity fund business, before it alighted on Institutional Capital Corporation, another Chicago-based company. The first family of equity funds was launched in 1996. Then, last year, Nuveen also acquired the Rittenhouse group, bringing another $9bn of funds under management, mainly in equity and balance account portfolios.

Mario Cibelli, of New York's Robotti & Co, the money manager which is one of the main dissident shareholders, is not entirely critical of the strategy. "It holds some water," he says.

But Nuveen's belated launch into the equity management business has left it looking a sorry performer alongside other mutual fund managers. After-tax profits have barely budged from $70m in 1993 to $74m last year, while earnings per share have increased 21 per cent over the same period. By contrast, earnings at T Rowe Price, a big fund management business, have almost tripled over the same period.

Moreover, Mr Cibelli points out that even if comparisons are drawn with Eaton Vance, a Boston-based fund manager which was also lumbered with a big municipal bond business, Nuveen is still found wanting. Eaton Vance's share price has more than tripled since late 1994, on the back of impressive fund management performance. Nuveen's has doubled over the same period, but still stands below the $40 level seen in 1993 – and has arguably been helped by the sale suggestions.

Asked why Nuveen took so long to launch equity-based funds, Mr Schwertfeger responds: "It was more important to do it right than to do it quickly."

But what really sticks in the dissidents' gullets is that Nuveen managers have been paid as if the group was a top performer. Last year, Mr Schwertfeger took home, in cash, $500,000 in salary and $2m in bonus; Anthony Dean, chief operating officer, enjoyed a similar $2.5m remuneration; while John Amboian, chief financial officer, made almost $1.25m. These sums are linked to performance – but only to the absolute size of operating profits, rather than share price, peer group comparisons or even growth in earnings per share.

Again, Mr Schwertfeger asks for time, saying remuneration systems do not just apply to top management, and overhauling them needs to be done progressively. "I don't believe you can change it overnight - we are systematically changing it." In its formal response to the dissidents' motion, Nuveen also notes that about one-fifth of annual incentive awards are shifting from a cash to equity basis.

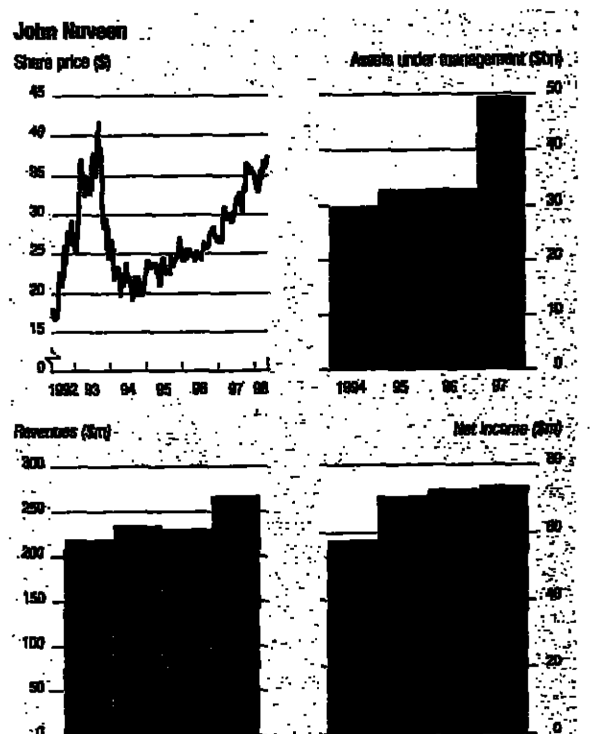
But Mr Cibelli points out that "senior management takes the lion's share of the bonus", and changes being made do not tackle the "disconnect" between Nuveen's financial performance and the compensation.

Mr Cibelli and fellow dissidents, such as Martin Whitman at Third Avenue Value Fund, do not expect to win on Thursday. St Paul, with its majority stake, says it will support Nuveen and describes the dissidents' proposal as "ill-advised".

Nevertheless, the dissidents say that if more than half the independently held shares back their motion, a strong message will have been sent to the St Paul board. That should put pressure on the insurance group's independent directors.

Even so, whether this will result in a sale of the Nuveen business is unclear. Despite Nuveen's problems, St Paul's low acquisition price in the 1970s means it is looking at a big capital gain on its investment.

Mr Cibelli concedes any disposal would need to be a share swap deal. But that, he says, would be fine: "[Nuveen's] a wonderful business – I'm just looking for a different management."



Source: Datastream/ICV; Company

German move by Kingfisher

By Peggy Hollinger

Kingfisher, the high street retailer, is paying DM148.5m ($82m) for a toehold in Germany as part of its strategy to become a global retailer of electrical equipment.

The group is buying 60 per cent of two German electricals chains, which both operate under the brand-name Promarkt.

The companies, which are similar to Kingfisher's UK chain, Comet, together claim about 1.7 per cent of the DM66bn a year German household electrical equipment market, the largest in Europe.

Kingfisher also has an option to buy the balance of Wegert Verwaltungs and Promarkt Holding for between £20m and £200m, depending on profits, in five to 10 years.

Sir Geoffrey Mulcahy, Kingfisher's chief executive, said the acquisition was a "major step forward in our development of a pan-European electricals operation".

The group took its first steps abroad when it bought Darty, the market leader in France, for £560m in 1993. It also holds a 26 per cent stake in the number four player in France, BUT.

Sir Geoffrey has repeatedly said that he hopes to develop a global retail business by first building a strong market leadership position in Europe.

Until recently, many analysts criticised his plans, saying Kingfisher had overpaid for Darty. However, in the most recent results, Darty proved a strong performer along with Woolworths, B&Q and Superdrug.

Analysts were yesterday optimistic about the group's potential in Germany, although the market is highly price competitive.

"It is a sensible deal," said one. "There should be some benefits from combining the purchasing for Germany with that of Darty."

Kingfisher refused to disclose the cost savings it expected. Nor would it detail the levels of investment which might be required. However, analysts said this could be significant because information systems in most German retailers were rudimentary.

One supplier to the leading German personal computer chains said simple procedures such as product ordering and purchasing were often done regionally, as opposed to at group level.

Philippe Frances, chief executive of Kingfisher Electrical Retailing, is expected to take overall control of the two German companies. However, the brothers Michael and Matthias Wegert who founded the company bearing their name, will stay on to run the business on a day to day basis.

The two German companies operate 53 Promarkt stores of on average 24,000 sq ft, and 108 small photographic equipment and processing outlets. Their combined pre-tax profits last year were DM19.5m on sales of DM1.2bn. Combined net assets were DM51.4m.

Sir Geoffrey Mulcahy: a major step forward Trevor Humphries

FKI bolsters US position with $72m deal

By Andrew Edgecliffe-Johnson

FKI moved to strengthen its position in the US door and window hardware market yesterday, with the $71.5m (£42.8m) acquisition of the Allen-Stevens Group.

The purchase, which includes the door and window hardware business of ASG's associate company, North American Die Cast Corporation, will give FKI's US subsidiary, Truth Hardware, "a commanding position" in window locking systems, with more than 50 per cent of the market for sash window locks.

ASG is the largest supplier of sash locks to the PVC double hung window market in North America, while Truth is stronger in wooden casement windows.

Bob Beeston, FKI's chief executive, said the group could make immediate savings: "We both sell to the same end-customers, but ASG use agents on commission, while we use a direct sales force."

Putting ASG's products through Truth's sales force could bring cost-savings worth 4 per cent of ASG's sales immediately, he said. "This gives us a complete range of window fittings for the domestic and refurbishment markets, and a better share of the patio door hardware business," he added.

FKI expects the deal to enhance its earnings in the first full year, and to reach the group's 15 per cent target return on capital in two to three years. In 1997, the operations which FKI is buying made $7.7m operating profit from sales of $50.3m.

There will be an adjustment to the final sum payable if net assets differ from $20.5m. Mr Beeston said the deal would increase gearing, as measured at the interim stage, by 16 per cent.

At the half-year, FKI said gearing would drop from 114 per cent to below 60 per cent as a result of its sale of the automotive division.

Mr Beeston also said the ASG purchase would give it "considerable opportunity" to accelerate new product development across the expanded product range.

BP dips 22% as low crude prices take toll

By Robert Corzine

British Petroleum yesterday reported a 22 per cent drop in first quarter, pre-exceptional, year-on-year replacement cost profits to £582m ($972m) as low crude prices continued to take their toll of oil sector earnings.

On a quarter-to-quarter basis the result was only 10 per cent down, with higher refining margins and continuing productivity gains offsetting somewhat the slide in crude prices, which averaged $14.40 for North Sea grades, $7 below the level a year ago and $4 down from the fourth quarter average.

BP executives said the company's performance was better than most analysts' expectations, and relatively robust when compared with other leading integrated oil companies, which have so far reported an average 38 per cent fall in year-on-year profits.

"These are strong results in a tough climate," said John Browne, BP's chief executive. "Despite a drop in the oil price of over 20 per cent from the last quarter, we have held the fall in profits to 10 per cent." He said BP benefited from $100m in productivity gains in the quarter, with "a lot more expected later this year."

Mr Browne said BP was battling with Exxon of the US for the highest return on average capital employed, the main measure of the efficiency of integrated oil companies; BP's ratio for the first quarter was 14 per cent, well down on last year but still at the "top end" of the industry scale, according to Mr Browne.

Exploration and production, the main source of BP's profitability in recent years, was hardest hit by weak oil prices. E&P operating profits were £524m, down 42 per cent from a year earlier, when oil prices were especially strong. Total crude production rose seven per cent to 1.34m barrels a day, although natural gas output was 13 per cent down because of the warmer than usual winter.

But the low crude price helped boost refining and marketing results. Global operating profits were up 32 per cent to £233m, with Europe – which enjoyed more than doubled operating profits – especially buoyant. Rodney Chase, deputy chief executive, said the healthy refining margins appeared to have continued in April.

Chemicals benefited from some margin improvements, with operating profits of £114m (£104m). Mr Browne said "there was no substance" to recent press reports suggesting that BP and Union Carbide of the US wanted to merge their chemical operations: "We had brief discussions with them but they came to nothing."

Mr Browne said BP had no plans to cut back on new developments, although some projects in Asia may be slowed. Capital expenditure in the quarter was £1.1bn. Net debt was $7.2bn, with gearing at 24 per cent. Although earnings per share fell 10.1p from 13.3p a year earlier, the quarterly divided was unchanged at 5.75p a share.

RESULTS

		Turnover (£m)		Pre-tax profit (£m)		EPS (p)		Current payment (p)	Date of payment	Corresponding dividend	Total for year	Total last year
								Dividends				
Anglo-Eastern	Yr to Dec 31	15.03	(12.44)	8.21	(7.1)	9.6	(9.7)	4#	June 15	3.49	4	3.49
Bilston & B'sea Φ	Yr to Dec 31	6.8	(7.56)	0.5621♠	(0.545)	4.5L	(3.8)	0.75	July 3	1.5	0.75	1.5
Incepta	Yr to Feb 28	88.2	(16.8)	5.61	(1.61)	2.26†	(0.93)	0.35	July 20	nil	0.35	nil
Sidlaw	6 mths to Mar 31	75.7	(83.2)	3.87	(17.4♥)	5	(21.8)	1.25	July 10	1	-	2.25

Investment Trusts		NAV (p)		Attributable Earnings (£m)		EPS (p)		Current payment (p)	Date of payment	Corresponding dividend	Total for year	Total last year
American Opport'y	6 mths to Mar 31	124.4	(-)	0.148	(0.031)	0.93	(0.2)	-	-	-	-	-
Murray Ent	6 mths to Mar 31	161.5	(159.2)	0.34	(0.199)	1.4	(0.8)	1	July 1	1	-	3.1
Pennine Aim VCT II	10 mths to Feb 28	130.7	(95⁑)	0.077	(-)	1.68	(-)	1.6♦	June 3	-	1.6♦	-

Earnings shown basic. Dividends shown net. Figures in brackets are for corresponding period. ♠After exceptional charge. ♥After exceptional credit. †On increased capital. ΦAim stock. ⁑As at launch on April 30 1997. ♦Excludes 0.56p capital distribution. #Payable as a FID

MONTHLY AVERAGES OF STOCK INDICES

	April	March	February	January
FTSE Actuaries Indices				
FTSE 100	5974.5	5861.8	5657.7	5242.1
FTSE 250	5554.7	5396.0	5007.1	4827.6
FTSE 350	2871.7	2812.3	2694.8	2515.1
FTSE Non-Financial	2776.91	2708.91	2586.40	2455.76
FTSE Financial Group	5801.79	5732.82	5542.60	4968.04
FTSE All-Share	2799.69	2740.51	2624.19	2455.05
FTSE Eurotop 100	2822.26	2627.81	2521.19	2341.77
FTSE Eurotop 300	1227.32	1173.29	1092.48	1015.22
FT/S&P-A World Index	291.70	283.55	270.59	252.80
FTSE Indices				
FT Govt Securities	105.09	103.99	103.44	103.10
FT Fixed Interest	142.05	140.37	138.99	138.04
FT 30	3805.8	3704.6	3466.7	3316.3
FTSE Gold Mines	1253.3	1071.0	1074.8	1026.9
SEAQ Bargains (5.00pm)	6,982,0.2	7,944,1.1	6,821,7.6	6,212,8.4

	Highest close Apr	Lowest close Apr
FTSE 100	6105.8 9th	5722.4 27th
FTSE 250	5610.8 30th	5519.2 17th
FTSE 350	2923.3 6th	2774.1 27th
FTSE All-Share	2847.07 6th	2709.89 27th
FT 30	3872.4 3th	3713.6 27th

CONTRACTS & TENDERS

Cendant starts talks on car parks venture

By Jonathan Ford

National Parking Corporation, the car park operator acquired by Cendant of the US for £801m ($1.33bn) last month, has started discussions with UK property companies about setting up a joint venture to develop its 500 car park sites in the UK.

The property companies – thought to include MEPC, Hammerson, Land Securities and Chelsfield – have been asked for proposals that would involve a comprehensive development of NPC's portfolio over the next 20 years.

NPC, which was built up after the war by its founders, Sir Donald Gosling and Ronald Hobson, is unusual in owning more than 70 per cent of its sites either freehold or on long leases. The portfolio was valued at £391.8m at March 1997 – a £25.7m increase on the year before.

Most of the sites are in city centres around the UK, and NPC believes the trend away from out-of-town developments makes them increasingly desirable to businesses seeking to build retail or office space.

The joint venture would be structured so that NPC would provide the sites while its partner would contribute sufficient cash to maintain and develop the properties.

The joint venture could yield substantial profits for Cendant, which said at the time of the NPC acquisition that it wished to dispose of the company's property interests.

This would help offset the high price it paid for NPC, which equated to 17 times the group's 1997 pre-tax profits. Since the NPC acquisition, Cendant's share price has fallen heavily, following the discovery of accounting irregularities at a US subsidiary.

Cendant is also considering the future of Green Flag, NPC's breakdown recovery business, following its agreement last week to buy the RAC motoring services business for £450m.

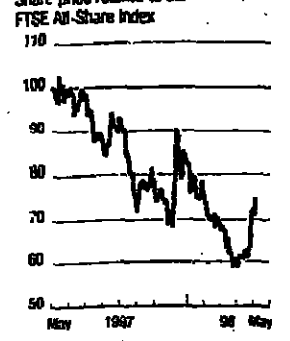
Green Flag's 3.5m members could be transferred to the RAC, with the company moving into another area of business such as providing a home emergency service. However, Green Flag's 1,000 employees, mainly employed at its Leeds call centre, are unlikely to be affected by the change, as Cendant is seeking to expand its UK call handling capacity.

COMMENT

Christies Intl

Going, going, but not quite gone. The sale of Joseph Lewis's 29 per cent stake in the venerable auction auction house to one of France's most aggressive businessmen, Francois Pinault, should send a frisson down the spine of Christies' top management. This is the man, after all, who dared to launch a hostile bid for the French conglomerate, Worms Compagnie. That is not the style of a passive investor. Admittedly, he has his share of trophy assets, and even bids at Christie's for the odd bauble.

Christies International
Share price relative to the FTSE All-Share Index



Source: Datastream/ICV

But his interest in financial services, via his holding company Artemis, could lead to a shake-up at Christies. Auctioneers are increasingly taking art on to their own books. These are no longer straightforward commission-based businesses but ones that are starting to look more like finance houses. A stake in an art-house with financial pretensions may just about console Mr Pinault for the loss of Worms.

Computacenter

One of the most street-wise of IT companies is coming to market. Computacenter sells hardware kit to large corporates and then helps them use it. The record in both earnings and turnover is good, while tight control over working capital is generating strong cash flow. As a solid play on the high-tech sector, Computacenter looks a good bet. Demand for IT hardware and services should keep sales growing at a fair clip. Forecasts of a compound annual rate of 20 to 25 per cent over the medium term look achievable.

But Computacenter investors need to know what they are buying. This is no Logica, Sema or Cap Gemini, whose high-powered consultants dream up the next killer application for their clients. Computacenter's services are installation, integration and maintenance. These are less risky to develop, but not as insensitive to price pressure as key bits of software. Also, tougher competition lies ahead from manufacturers which may either bypass Computacenter to sell direct to companies or muscle in on providing straightforward services. Sitting on a third of the market, Computacenter is at least less vulnerable than others. At the mid-range price of 610p, the shares will trade on 29 times 1998 forecast earnings, which looks fair. Scarcity may well push the price up, but a p/e much above 30 would look demanding.

New US bidder for Vero

By David Blackwell

A second US group yesterday entered the bidding for buy Vero, the UK-based supplier to the electronics and telecommunications industries that has been left vulnerable by the strength of sterling.

Pentair, a Minnesota-based diversified industrial group, is offering 170p cash per share, valuing its target at £102.2m ($171m).

This compares with the 157p a share offered just under a fortnight ago by APW of Milwaukee.

The shares – 119p ahead of APW's offer on April 23 – closed up 7½p at 180p.

Vero, which in March said the strong pound had knocked profits back 27 per cent last year, was recommending APW's offer. But Pentair indicated last month that it was considering launching a rival bid for the UK group, which makes and distributes racks and enclosures used to house cables and electronic equipment.

Pentair, which has more than twice the sales of APW, said its offer was friendly. "We have a strong preference for a recommendation from the board – but not so strong that we would not proceed without it," said Richard Ingman, chief financial officer.

Brian Gay, Vero's managing director, with a 3.5 per cent stake, said the board would consider the higher offer. APW said it was looking at all its options.

Pentair, listed on the New York Stock Exchange, made profits of $91.6m (£55m) on sales of $1.8bn last year.

Computacenter set for charitable flotation

By Paul Taylor

Philip Hulme and Peter Ogden who founded Computacenter 17 years ago, plan to give almost £50m ($84m) to charity when the information technology distribution and computer services group floats later this month.

Mr Hulme, Computacenter's chairman, said yesterday that he planned to put the £30.5m proceeds of his 5 per cent share sale into a charitable trust and Mr Ogden is expected to place two thirds of his £28.1m proceeds into the same non-beneficial trust. Beneficiaries of the trust would be announced later.

The two entrepreneurs who first met while students at Harvard Business School in the early 1970s, will still hold shares worth about £256m in the group which will have a market capitalisation of about £1.04bn.

Mike Norris, chief executive, and Tony Conophy, finance director, will be among the 30 Computacenter staff who will become millionaires as a result of the flotation. Together with a further 750 employees, they own about 18 per cent of the capital through share options.

According to the pathfinder issued yesterday, shares in the group will be priced at between 550p and 670p.

The company is coming to market through an offering of 44.3m shares to institutional shareholders.

Group turnover last year was £1.13bn after doubling over the past two years. Pretax profits totalled £47.1m last year.

The offer price will be announced on May 21 and dealings on the London Stock Exchange are expected to begin on May 29.

SBC Warburg Dillon Read

Global dominance in convertibles

IBM
$ 125,000,000
Exchangeable Notes
into
Dow Jones
Industrial Average
Sole bookrunner

ALPHARMA
$ 125,000,000
Convertible Notes
Sole bookrunner

Swiss Bank Corporation
$ 275,000,000
Exchangeable Notes
into
Amoco, Chevron, Exxon,
Mobil, Texaco
Sole bookrunner

TECO
$ 200,000,000
Credit Enhanced
Convertible Bonds
Sole bookrunner

Allianz
DM 2,000,000,000
Exchangeable Bonds
into
Deutsche Bank
Joint bookrunner

Bell Atlantic
$ 2,455,000,000
Exchangeable Notes
into
Telecom Corporation of
New Zealand
Sole bookrunner
The world's largest international equity-linked issue

ROCHE
SFr 1,000,000,000
Bonds with RODEO
warrants
Sole bookrunner

NEC
Yen 12,000,000,000
Convertible Notes
Sole bookrunner

Baloise
SFr 200,000,000
Exchangeable Bonds
into
UBS
Sole bookrunner

The market leader

in the U.S.

All U.S. equity-related issues 1/1/98 to date

	Managing bank or group	Total US$(m)	Share (%)
1	SBC Warburg Dillon Read	2,705.00	19.30
2	Merrill Lynch	2,473.98	17.65
3	Morgan Stanley DW	2,152.57	15.36
4	CSFB	1,480.00	10.56
5	Salomon SB	1,100.00	7.85
6	Goldman Sachs	1,091.37	7.79
7	Lehman Bros	904.61	6.45
8	Bankers Trust	750.00	5.35
9	DLJ	425.00	3.03
10	PaineWebber	288.00	2.05

Source: International Financing Review April 18, 1998

and internationally

All international convertibles 1/1/98 to date

	Managing bank or group	Total US$(m)	Share (%)
1	SBC Warburg Dillon Read	5,445.73	37.42
2	Morgan Stanley DW	2,651.21	18.22
3	Merrill Lynch	1,388.97	9.54
4	Goldman Sachs	861.06	5.92
5	CSFB	718.34	4.94
6	HSBC Investment	717.70	4.93
7	Dresdner-KB	542.74	3.73
8	Paribas	405.39	2.79
9	Salomon SB	372.75	2.56
10	UBS	327.10	2.25

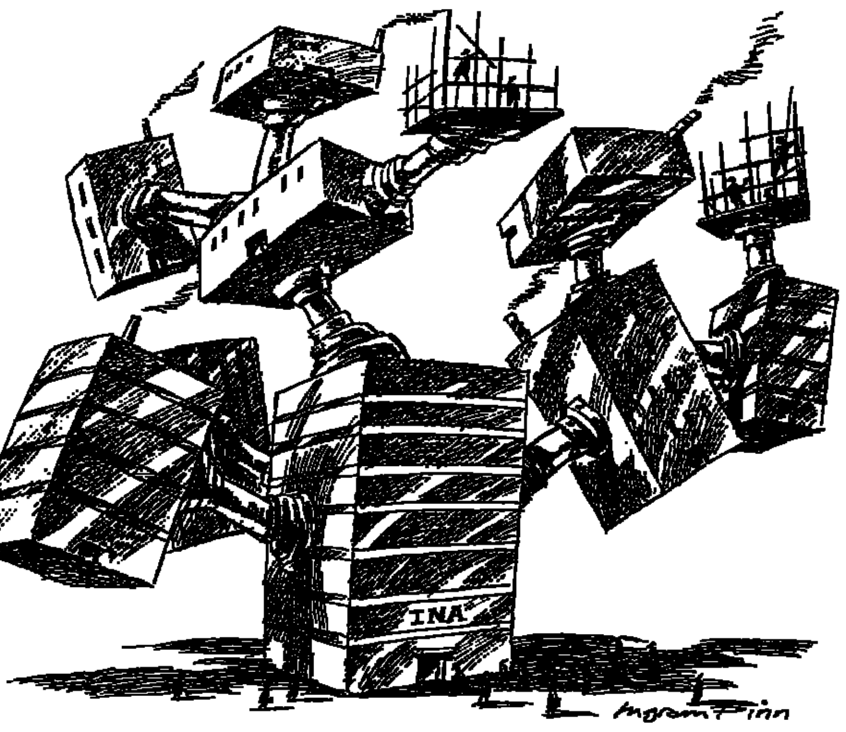
Source: International Financing Review April 18, 1998

Since January 1, 1998, SBC Warburg Dillon Read has lead managed 24 equity-linked issues worldwide, raising more than $8 billion.

MANAGEMENT MANUFACTURING IN-HOUSE

Do-it-yourself secrets with a bearing on sales

Peter Marsh looks at a family-owned German engineering group that has gone against the trend towards outsourcing



Outsourcing is in vogue in many areas of manufacturing, but companies that have expanded employment by "insourcing" are rare.

One of the few that has is INA, a German engineering company that represents one of the best kept secrets of European industry.

Formed in 1946 as a maker of buckles, ladders and hand carts, the company has become one of the world's biggest makers of industrial rolling bearings.

Since 1990, it has increased employment in its 14 German factories by 2,000 to 12,000, partly by a policy of taking on work it believes is too exacting and specialised to be done by subcontractors. Similar policies have been followed by its 18 other factories worldwide, which employ 8,000.

INA, which had sales last year of DM4bn ($2.1bn), three-quarters from bearings and the rest from bearing-related car engine parts, has only two shareholders. They are the widow and son of Georg Schaeffler, one of two brothers who started the company and who died in 1996 while still in day-to-day charge.

Both Georg Schaeffler and his brother Wilhelm, who died in 1981, had a reputation for secrecy. They pioneered a system for linking technological development inside the company with the needs of customers. Lorenz Raith, who took over as chief executive on Georg's death, believes it is at least the equal of those *practised by many better-*known businesses.

Hermann Simon, a German management consultant, says INA is a good example of companies "whose secrets lie not so much in their products as in what happens inside their plants".

INA is a good example of companies 'whose secrets lie not so much in their products as in what happens inside their plants'

The company makes 50,000 products – mainly rotating bearing systems that facilitate movement in a range of machinery from paper-making equipment to the space shuttle.

It has also exploited its production and marketing know-how by moving into specialised engine parts for cars, such as clutch and valve systems.

About half INA's sales are to the automotive industry, where big customers include Toyota, Volkswagen and Mercedes-Benz. Some 30 per cent go to general engineering industries, with the rest to sectors such as medical, defence and cleaning equipment.

Mr Raith, who has been at INA for 20 years, says *technology and production* knowledge is one facet of the company's success. Another is flexibility – a trait not always associated with German industry.

"We have been increasing the depth of our manufacturing, as opposed to relying on outside subcontractors to do the work. This has happened as we move to more complex parts, such as tappet replacements for engine valve systems which might give better fuel economy, fewer environmental problems, or better safety," he says.

"The skills component of *what we do is increasing*...as we move into new areas, which require, for instance, advanced knowledge of coatings technologies and software. This is why it makes sense to continue building our manufacturing capabilities, even in high-cost places like Germany."

Computing skills are vital. "We have to be aware that we are competing all the time not just against other mechanical products but electronic products [for instance, for engine controls] that perform similar functions," says Mr Raith.

INA splits its worldwide workforce into about 100 product groups covering specific competences geared to customers – for example, special bearing systems for the car industry or products for printing or woodworking machines. Each group com*prises technical, sales and* marketing people.

Mr Raith says: "You have to ask yourself all the time what is the best organisation. You may need every so often to scrap one group and start another one. Our chosen method with new people is to recruit new engineers just after school and train them in our way of doing things."

Of the 20,000 employees, more than 70 per cent are skilled. INA has 250 full-time trainers, mainly working at its technical centre – what the company calls its INA University at its headquarters in Herzogenaurach near Nuremburg. Every year it takes on 250 apprentices, exclusively for the German workforce.

Underlining how INA organises itself on a "do-it-yourself" basis whenever it appears to make sense, the company has 500 *people working on special* manufacturing systems and tooling for internal use. "We find it cheaper to do these jobs ourselves and also make sure that the machines have the flexibility that we need," says Mr Raith.

INA does not publish profits but says its returns are high enough to pay for capital investments that on average account for 10 per cent of its turnover – compared with the average figure for Europe's engineering industry of about 5 per cent.

Mr Raith says INA's two shareholders are determined that the company stays private. "The two [Schaeffler] brothers were unique and highly motivated characters. They set the pattern for the company today. If we were merged into another big company, it would destroy much of our success factor."

LOUISE KEHOE
EAGLE EYE

Consumer satisfaction is the key

Microsoft should not be prosecuted for providing standards in PC software

Politics and industry rivalries surrounding the Microsoft antitrust investigation are making lots of headlines, but the opinions of individual personal computer users are all too often left out of the story.

Where do the "silent millions" of Microsoft software users stand? Most may know little of the company's looming battle with the US government.

Yet consumers are supposed to be at the centre of any antitrust case. Traditionally, they are the victims of money-grabbing monopolists who abuse market dominance by raising prices.

Why is it then that there are few complaints from individual PC users about the price of Microsoft's software products? The company is sometimes criticised by corporate customers for rising service costs but its retail prices do not seem to be out of line with those of other vendors.

More common are moans about the fast changes in PC software and technology: "I've only just installed Windows 95," a colleague said last week. "Am I going to have to switch again [to Windows 98]?" It is not so much prices that upset PC users as the prospect of having to adjust to new ways of doing everyday things such as opening an application program or searching for a file.

Technology enthusiasts are eager to get their hands on Windows 98. Yet for the majority of PC users, new software means new hassles.

PC manufacturers take the opposite view. With every "new and improved" software release, they have the opportunity to persuade buyers that it may be a good time to upgrade to a new PC.

Consumer resentment at the accelerating cycle of software and hardware upgrades underlies much of the ill feeling towards Microsoft. There is a sense that we are all at the mercy of this technology juggernaut.

The cost of a specific Microsoft program may not be unreasonable, but the cost of keeping up with PC technology is substantial and Microsoft is a big part of the problem.

The irony is that this has absolutely nothing to do with any alleged antitrust violations by the company.

Microsoft's opponents argue that its stranglehold on the market for PC operating systems software slows innovation as other software developers are dissuaded from trying to compete.

The goal of US antitrust regulators is to ensure open competition, which they believe will boost innovation and accelerate technological advance. But one has to wonder whether government lawyers have taken the time to ask PC users if this is what they want.

Then there is consumer choice. US antitrust regulators say they are determined to ensure that consumers will be able to choose between Microsoft products and those offered by its competitors.

Yet there are alternatives to Microsoft software for those who want them. Unix and its variants, as well as the Apple Macintosh operating system, compete with Windows. Word Perfect competes with Microsoft Word. Netscape's Communicator is a winning alternative to Internet Explorer.

Consumers tend to take the easy path and in PC software, Microsoft provides it.

If Microsoft has violated antitrust laws by coercing its industry partners into signing exclusionary contracts, it should be hauled into court. If the company has provided what consumers seem to want – standards in PC software – it should not be prosecuted.

* * *

Personal computers have created a new Murphy's Law: the information you need – a file, an e-mail address or a web site bookmark – is always stored on another inaccessible computer.

The problem arises because many of us have become users of multiple computers. There is one on the office desk, another at home and also a notebook computer for use on business trips.

Inevitably, the web site you bookmarked at home last night will prove unfindable the next morning at work. The documents you need are always somewhere else.

Die-hards who carry a laptop computer with them everywhere can circumvent this problem. But they do so at the risk of losing everything altogether if the portable computer is damaged or lost.

Visto, a Silicon Valley start-up, has a solution. For less than $10 a month the company will create your electronic briefcase – a secure storage place on the internet for your personal files.

Visto (*www.visto.com*) provides an "assistant" – software that will automatically put into your electronic briefcase the data and documents you select.

If you pick up e-mail messages or record appointments while travelling, they are automatically available from your office and home computers. If you work on a document at home, the updated version will be stored on your office computer.

Since January, Visto has attracted customers from more than 100 countries: telecommuters who work at home and in an office; travellers who need to access computer files on the road; and small businesses that use the service to create a virtual private network.

Visto is an answer to the prayers of the forgetful and those who mean to update contacts/e-mail and other files but somehow never do. I'm heartened to learn that there are a lot of us.

* * *

Navigating the web is always a bit hit and miss. Search engines throw up many irrelevant answers and directories never seem to have quite the thing you are looking for.

Centraal, a startup company attracting attention by its realnames software (*www.realnames.com*), is out to make the task easier. The system enables users to type in the name of a company, a trademark product name or similar phrase and go directly to the right web page. Owners of these names register them with Centraal for a small fee.

Today Centraal will announce a partnership with AltaVista, the search service owned by Digital Equipment. The deal will make the realnames system available to users of AltaVista, promising more successful web searches.

Ideally, Centraal's software should be built directly into a browser so that it is automatically activated when needed. But first, Centraal will have to navigate its own way through the browser wars. Perhaps it needs to search for politics.com.

Share your views in the Eagle Eye discussion group on the FT web site (www.FT.com) or contact Louise Kehoe by e-mail on louise@FT.com

Information Technology

● The FT's review of Information Technology appears on the first Wednesday of each month

JOHN W. HUNT
ADVISES

The perils of foreign postings for two

Dual-career families have complicated the business of filling once-prized postings. Below, how some companies are coping

Dear Professor Hunt,
I have just asked my marketing manager to transfer to Moscow for two years. She has refused and if I insist she will resign. Her partner is a lawyer with a City firm and although they have an office in Moscow he will not move. Any ideas?

Prof Hunt replies:
One of the great challenges for business executives this century has been the opportunity to work abroad. Thousands of young, single people have jumped at the chance of experiencing a sanitised version of the thrills of 19th century exploration.

Life became more complicated if these expats married or established permanent relationships. However, as the vast majority were men, the assumption was made that the wife or partner would be delighted to share in the experience – and this experience would be reward enough for the "little woman".

In return, she would be expected to manage his domestic life, enter into the social life of the community and contribute to activities that showed her husband's employers in the very best light. She was not paid for this. The fact that she had to restore the social equilibrium within the family and give up friends and interests of her own and support her husband in all his commercial activities was rarely recognised. At best, a paltry allowance was paid for clothing or domestic help. She became an unpaid employee of the corporation.

There were benefits: a lifestyle that could not be afforded at home; a chance to play the colonial governor's lady; servants, nannies, drivers; trips home twice a year; school fees; and holidays in exotic places. It was seductive and difficult to reject.

For every successful relocation there were as many failures, and research showed the wife was the main cause. This was not surprising. The husband would arrive in a foreign city and be absorbed by the company. He had an identity, an office, support staff, authority and status. She had none of these and often did not speak the language.

It was her responsibility to look after the children, to deal with their problems of adjustment, to get them settled into schools and to ensure that the transfer abroad went as smoothly as possible.

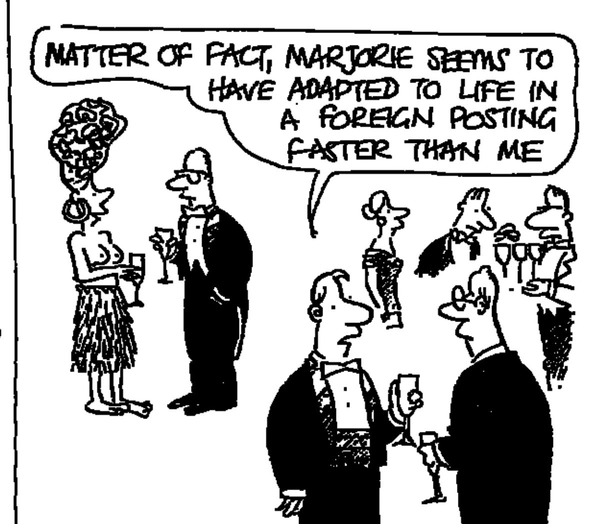
The second world war changed expectations; people realised the armed services had better ways of handling expatriate appointments. Companies, particularly the oil companies and many of the new US multinationals, introduced training for both expat executives and their partners.

For the first time the research evidence that the success of the appointment was heavily dependent on the adjustment of the partner was taken seriously.

But by the 1980s the number of professionally trained women accompanying their husbands on expatriate postings was increasing. Dual-career families were no longer the exception and women started to rebel. They were not interested in playing explorer – many had explored the world already as students and as backpackers.

Globalisation, dual careers and the rate of change have undoubtedly had an impact on the expat question. But of all these influences, the dual-career issue has caused the greatest problem for corporations. More and more companies are trying to avoid sending men or women from dual-career households abroad.

There have been other factors at work, too. Regulations in some countries about the nationality of chief executives and heads of functions have resulted in more local appointments.



Expats themselves are less willing to change location. Some employees, seeing profound change in the home organisation, have decided to dig in at the centre rather than risk going abroad. While expats used to be sure of a job back home, this is no longer a certainty. And recently some of the perks of expat jobs – boarding school fees and other elements of a cushioned lifestyle – have been withdrawn by some companies.

So what should you do? One problem is that there has been little good research in this area. Michael Harvey, a US academic, attempts to fill the gap in the current edition of The International Journal for Human Resource Management. He reports the findings of a survey of 258 dual-career couples and their experiences of working abroad. He looked at before and after they went, assessed their willingness to relocate, adjustments made, causes of stress and the type of support provided by the expatriate manager's company.

His main conclusion is that multinational corporations need to assist couples and update their human resources policies.

Most relocation policies used by companies are based on a 1970s, married male whose wife remained at home and looked after the children – even though the stereotype applies to an increasingly small number of people. The increased diversity of the workforce would suggest the time has come to change some of these outdated policies.

Mr Harvey suggests a combination of counselling and assistance in preparing the accompanying partner. Other possibilities suggested by those who responded to the survey were that the corporation offers the spouse a post in the same country, or at least some corporate support such as a personal assistant, transport, letters of introduction, help with childcare support, and assistance in keeping professional skills up to date.

In reality, many well-known multinationals still provide no support at all for anyone moving abroad, and couples are having to make their own adjustments for overseas appointments.

It is no longer rare for a couple to live in, for example, Rome, where she pursues her career, and he spends his week pursuing his in London. It is not unreasonable to expect that the dual-career problem will, in part, be resolved by faster transport.

In such a case, the company might be advised to provide generous travel expenses and assistance with renting or buying apartments. Compared with the cost of losing your marketing manager, this is likely to be the cheaper option.

John W. Hunt is Professor of Organisational Behaviour at London Business School and a consultant to private and public sector clients. This column appears fortnightly.

MANAGEMENT OVERSEAS POSTINGS

Don't forget the trailing spouse

Edi Smockum looks at some innovative solutions to the problems of working abroad

Companies ignore the problem of the "trailing spouse" – those selfless individuals who follow their partners around the globe – at their peril. That was the warning, at a recent conference held in Paris, from Markus Andres, human resource manager for Zurich Insurance.

With the pool of potential employees who are willing to accept overseas postings shrinking, "the remaining candidates may not represent the best possible selection", he pointed out.

A recent survey underlined the problem: 74 per cent of human resources managers said their chief global challenge was finding candidates. The most frequent reason for employees turning down expatriate appointments was concern about their spouse's career.

With that in mind, if your company's high flyer is married to another high flyer with a different company, can you entice them to set off to foreign parts? Some companies have found innovative solutions.

Motorola, which has 2,000 expatriate employees worldwide, offers trailing spouses up to $7,500 a year for education. This is broadly interpreted by the company – a spouse can, for example, use the money to invest in starting up a business. Alternatively, the trailing spouse can bank the money for their return, as long as it is used within two years of their getting back.

Shell International Petroleum, the Anglo-Dutch oil company which has 20 per cent of its employees serving in overseas appointments, reimburses 80 per cent of the costs of vocational training, further education or re-accreditation up to Fl 9,000 ($4,400) per assignment.

But, as Shell found, many potential expatriates are hungrier for information and advice than they are for funding. Its spouse employment centre has helped more than 1,000 couples prepare for placements overseas. The centre recommends schools, medical facilities and housing advice and provides up-to-date information on employment, study, self-employment and voluntary work. This support, fully funded by Shell, has been found to be very cost efficient.

Failed postings are a great risk in expatriate placements, and one that few companies take precautions against. Not only are the costs of returning a recently-moved employee and family high, the it can damage relations with local clients.

Family breakdown or maladjustment is the most cited reason for an employee to have to be repatriated. Schlumberger, the *French-US oil services* company, extended its worldwide company intranet to include trailing spouses with home computers. This not only gave the accompanying partner access to Schlumberger's intranet, but also allowed them on to the world wide web.

The main obstacle for most trailing spouses is the difficulty in getting a work permit. Many multilateral organisations, such as the London-based European Bank for Reconstruction and Development, have been able to negotiate work permits for trailing spouses during the course of selecting sites for their offices.

Kathleen van der Wilk-Carlton of Shell thinks companies should begin to flex their muscles: "If governments can get agreements for work permits for diplomatic staff, it is time for companies to lobby governments for the same rights."

EURO PRICES

EQUITIES

Europe weakens on rate fears

EUROPEAN OVERVIEW

By Martin Dickson, Financial Editor

Trans-European stock indices declined yesterday against a background of a strengthening D-Mark, worries over continental interest rate increases and a softer tone on Wall Street.

The FTSE Eurotop 300 index closed at 1,220.48, down 1.28 per cent, while the narrower Eurotop 100 index closed at 2,802.43, down 1.01 per cent..

The FTSE resources economic group closed down 2.3 per cent, while general industries dropped 0.70 per cent and services 1.34 per cent. Utilities were off 1.12 per cent and financials 1.46 per cent.

The market was dominated by a sharp rise in the D-Mark, which traded at a three-month peak to the dollar and at its strongest against sterling since mid-February.

This came amid renewed speculation that the Bundesbank might move early to increase interest rates following last weekend's compromise by the European Union over the choice of the first president of the European Central Bank.

There were interest movements elsewhere, with the Danish central bank unexpectly raising rates to defend the krone, while Spain cut its money market rates to bring them more into line with Emu members.

German government bonds, which are expected to provide many of the benchmarks for the Eurozone fixed income market, closed down, although they were steadier in later trading. The 10-year was quoted late in the day at 102.00, down 0.16.

In equities, the weaker tone was accentuated by a weak opening on Wall Street.

Retail banks drop

Among Eurotop 300 sectors, retail banks dropped 1.6 per cent, with interest rate concerns particularly strong in Germany and Denmark.

Dresdner Bank dropped Ecu 1.8 to Ecu 50.45 while Den Danske Bank was down Ecu 6.5 at Ecu 111.71.

In the UK, HSBC, which has a large exposure to Hong Kong, saw its 75p shares drop Ecu 0.9 to Ecu 27.18 following a sharp decline in Hong Kong's Hang Seng index.

Bid rumours

However, in Paris bid rumours helped Credit Commercial de France gain Ecu 1.0 to Ecu 75.61.

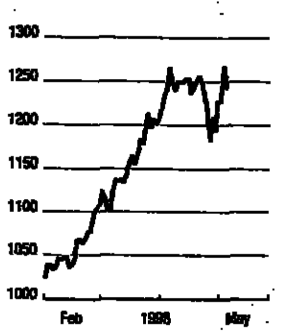
The automobile sector dropped 2.15 per cent with Volkswagen falling Ecu 22.4 to Ecu 728.01 amid market rumours that it might be planning to take over Lamborghini, the luxury car manufacturer. BMW was down Ecu 24.2 at Ecu 1025.30.

The insurance sector dipped 1.3 per cent. Fortis AG was hit by market fears that its bid talks with Générale de Banque were breaking down. Its shares closed at Ecu 261.51, down Ecu 5.6.

Axa-UAP shares closed at Ecu 111.02, up 1.2, after it announced plans to launch an offer for all the publicly held shares it does not already own in Royale Belge.

Rising sectors included pharmaceuticals and packaging and printing.

Eurotop 300 Eurobloc
Index



Source: FTSE International

MAIN MOVERS

FTSE Eurotop 300	Close price	Day's change	Day's chge %
RISES			
Adecco (Br)	415.37	+19.1	+4.8
Holderbank B	1,009.62	+43.2	+4.5
Smithkl Bchm	10.75	+0.3	+3.2
UPM-Kymmene	28.22	+0.8	+3.1
Siebe	20.82	+0.6	+2.8
Skanska B	44.94	+1.2	+2.7
Stora	25.84	+0.7	+2.7
Dixons	8.70	+0.2	+2.6
FALLS			
D/S Svendborg B	57,851.7	−3,886	−6.3
Smith & N	2.58	−0.2	−6.1
Heidelb Zem	80.16	−5.0	−5.8
HSBC (HK$10)	25.33	−1.5	−5.5
Danske Bank	111.71	−6.5	−5.5
Asda	2.93	−0.1	−4.8

■ THREE MONTH EURO FUTURES (LIFFE) Ecu1m points of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
May	-	95.750	-0.010	-	-	0	0
Jun	95.760	95.750	-0.010	95.760	95.750	135	12499
Jul	-	95.750	-0.010	-	-	0	0
Sep	95.790	95.755	-0.015	95.790	95.750	281	17234

OTHER INDICES

	May 5	May 4	May 10	1998 High	1998 Low	Since compilation High	Since compilation Low
DJ Stoxx 50	3279.45	3320.83	(u)	3398.09	2574.51	3398	2878.42
DJ Euro Stx 50	3261.98	3309.96	(u)	3345.86	2466.81	3345.86	2885.52
MSCI Europe	1217.93*	1228.63	1204.93	1240.82	980.50	1240.82	510.78

Source: Extel/part of FT Information. *Subject to revision next day.

FTSE Actuaries Share Indices — European series

Produced in conjunction with the Faculty and Institute of Actuaries

May 05 National & Regional Markets	Ecu Index	Day's %	change points	Yield gross %	xd adj ytd	Total retn (Ecu)
FTSE Eurotop 300	1220.48	−1.28	−15.80	1.92	9.18	1239.57
FTSE Eurotop 100	2802.43	−1.01	−28.47	2.01	2.93	990.87
FTSE Ebloc 100	997.96	−2.00	−20.35	1.58	0.39	998.34
FTSE Eurotop 300 Regions						
Eurobloc	1244.63	−1.84	−23.38	1.57	3.48	1258.09
UK	1161.45	−0.85	−10.06	2.76	16.71	1198.24
Europe Ex-Eurobloc	1205.08	−0.73	−8.90	2.27	13.49	1231.74
Europe Ex-UK	1254.77	−1.50	−19.09	1.49	4.90	1263.07
FTSE Eurotop Industry Sectors						
RESOURCES	1036.85	−2.30	−24.37	2.62	7.15	1059.02
Extractive Industries	991.49	+0.35	+3.44	2.63	0.00	991.49
Oil, Integrated	992.99	−2.49	−25.39	2.62	0.00	992.99
Oil, Exploration & Prod	1003.49	+1.08	+10.77	2.44	0.00	1003.49
GENERAL INDUSTRIES	1178.04	−0.70	−8.35	1.82	8.27	1189.67
Construction	1058.69	+2.75	+28.32	2.89	0.00	1058.69
Building Matls & Merchs	1016.51	+0.27	+2.71	2.82	0.00	1016.51
Chemicals	991.57	−0.81	−8.14	2.17	4.82	996.37
Diversified Industrials	1009.69	−1.11	−11.30	2.10	0.00	1009.69
Electronic & Elect Equip	1015.81	+0.19	+1.96	1.63	0.00	1015.81
Engineering	1006.80	−0.93	−9.41	2.03	0.00	1006.80
Paper, Pckg & Printing	1021.38	+0.68	+6.93	2.31	0.00	1021.39
CONSUMER GOODS	1153.07	−1.15	−13.46	1.58	8.37	1174.09
Automobiles	1001.59	−2.15	−21.97	0.90	0.00	1001.59
Alcoholic Beverages	883.25	−11.78	−117.96	2.54	0.00	883.25
Food Producers	1006.53	−1.15	−11.66	1.55	0.00	1006.53
Household Goods & Texts	1013.63	−0.23	−2.31	1.22	0.72	1014.35
Healthcare	975.42	−3.77	−38.21	2.38	0.00	975.42
Pharmaceuticals	1012.94	+0.54	+5.47	1.31	0.00	1012.94
Tobacco	991.85	−0.56	−5.54	4.03	0.00	991.85
SERVICES	1156.18	−1.24	−14.46	1.88	7.10	1172.60
Distribution	1011.47	−0.32	−3.27	0.89	0.00	1011.47
Leisure & Hotels	1004.88	−1.05	−10.66	2.43	0.00	1004.88
Media	990.50	−1.63	−16.40	2.34	0.00	990.50
Retailers, Food	987.08	−1.61	−16.19	2.02	0.00	987.08
Retailers, General	997.94	−0.93	−9.33	2.26	0.00	997.94
Telecommunications	1001.70	−1.21	−12.30	1.59	0.00	1001.70
Breweries, Pubs & Rests	988.70	−1.30	−13.00	2.70	0.00	988.70
Support Services	999.63	−0.16	−1.57	1.31	0.00	999.63
Transport	980.51	−2.51	−25.19	2.26	0.00	980.51
Information Technology	1004.07	−0.42	−4.27	0.33	0.00	1004.07
UTILITIES	1306.00	−1.12	−14.84	3.32	23.71	1346.09
Electricity	998.04	−0.85	−9.55	3.43	0.00	998.04
Gas Distribution	989.06	−1.48	−14.88	1.87	83.72	1079.05
Water	984.85	−1.54	−15.42	5.17	0.00	984.85
FINANCIALS	1369.32	−1.46	−20.33	1.82	11.04	1388.84
Banks,Retail	998.24	−1.60	−16.21	2.07	1.68	999.89
Insurance	1002.31	−1.30	−13.19	1.25	0.00	1002.31
Life Insurance	1003.97	−1.10	−11.12	1.49	0.00	1003.97
Other Financial	995.46	−1.21	−12.18	2.08	0.00	995.46
Investment Companies	989.22	−1.64	−16.49	2.23	0.00	989.22
Property	989.85	−0.59	−5.86	2.70	0.00	989.85

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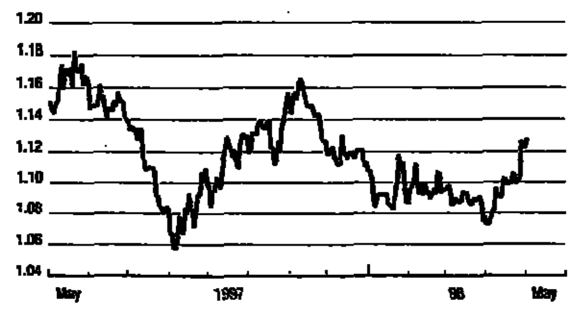
CURRENCIES & MONEY

FT SYNTHETIC EURO RATES

May 05	Currency code	Closing mid point	Change on day	Change on day%	Change on week	Change week %
Europe						
Austria	ATS	14.066185	+0.0039	0.03	+0.0060	0.04
Belgium	BEF	41.225365	−0.0129	−0.03	−0.0570	−0.14
Czech Republic	CZK	36.525148	+0.0082	0.02	−0.3001	−0.81
Denmark	DKK	7.623934	−0.0012	−0.02	+0.0002	0.00
Finland	FIM	6.074970	+0.0062	0.10	+0.0093	0.15
France	FRF	6.702404	+0.0013	0.02	+0.0010	0.01
Germany	DEM	1.999129	+0.0006	0.03	+0.0008	0.04
Greece	GRD	346.306863	−0.9645	−0.28	−5.9271	−1.68
Hungary	HUF	235.947492	+0.4715	0.20	+1.2795	0.55
Ireland	IEP	0.795231	−0.0000	0.00	+0.0036	0.46
Italy	ITL	1972.205734	−0.5181	−0.03	−3.1909	−0.16
Luxembourg	LUF	41.225265	−0.0129	−0.03	−0.0570	−0.14
Netherlands	NLG	2.252065	+0.0001	0.01	+0.0053	0.23
Norway	NOK	8.300309	+0.0035	0.04	−0.0179	−0.22
Poland	PLN	3.790654	+0.0039	0.10	+0.0069	0.18
Portugal	PTE	204.554721	−0.1900	−0.09	−0.1934	−0.09
Romania	ROL	9463.948760	+77.1041	0.82	+128.8165	1.38
Russia	RUB	6.890950	+0.0103	0.15	+0.0649	0.95
Slovakia	SKK	38.595545	+0.0071	0.02	−0.0269	−0.07
Spain	ESP	169.691393	−0.2029	−0.12	−0.0662	−0.04
Sweden	SEK	8.597562	−0.0291	−0.34	−0.0271	−0.31
Switzerland	CHF	1.672895	+0.0017	0.10	+0.0094	0.57
United Kingdom	GBP	0.679645	+0.0062	0.92	+0.0109	1.63
ECU	ECU	1.013773	+0.0018	0.18	+0.0024	0.24
Americas						
Brazil	BRL	1.290728	+0.0073	0.57	+0.0134	1.05
Canada	CAD	1.623503	+0.0141	0.88	+0.0163	1.02
Mexico	MXN	9.557545	+0.0495	0.52	+0.0465	0.49
United States	USD	1.127687	+0.0058	0.52	+0.0110	0.99
Pacific/Middle East/Africa						
Australia	AUD	1.759048	+0.0173	0.99	+0.0344	1.99
Hong Kong	HKD	8.738182	+0.0460	0.53	+0.0853	0.99
Japan	JPY	148.558905	−0.8566	−0.57	+0.8885	0.60
Singapore	SGD	1.785436	+0.0121	0.68	−0.0018	−0.10
South Africa	ZAR	5.703176	+0.0228	0.40	+0.0664	1.18

Source: FTSE International Ltd. This table gives a theoretic, synthetic value for the Euro against various other currencies, calculated by applying GDP weights to Euro "in" currencies. The Euro will not exist until January 1 and the table should not be used as a precise guide to its value. It is designed to show broad currency valuation trends. Due to a communications error, various rates in yesterday's table were incorrect.

Synthetic Euro against the dollar
$ per euro



Source: FTSE International

EUROZONE CURRENCY CONVERGENCE

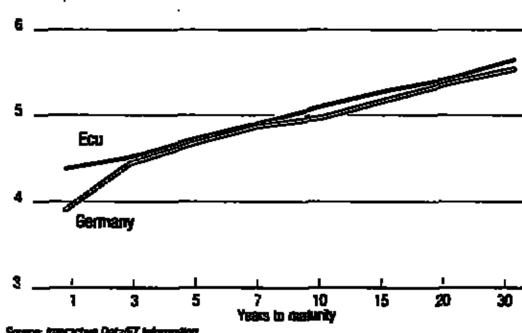
Bilateral conversion rates against the D-Mark

May 05	Fixed rate	Market rate	Diff bid v mkt %	Week ago %	Forward rate	Forward int rate	Diff int rate v DEM
Austria	7.03552	7.0362	0.01	0.01	7.0383	3.91	0.05
Belgium	20.6255	20.6215	−0.02	0.11	20.6265	3.9	0.04
France	3.35386	3.3527	−0.03	−0.04	3.3523	3.84	−0.02
Finland	3.04001	3.0388	−0.04	−0.22	3.0401	3.93	0.07
Ireland	0.402676	0.3978	−1.21	−1.85	0.402	5.49	1.63
Italy	990.002	986.5326	−0.35	−0.17	991.2893	4.6	0.74
Luxembourg	20.6255	20.6216	−0.02	0.11	20.6265	3.9	0.04
Netherlands	1.12674	1.1265	−0.02	−0.18	1.1263	3.83	−0.03
Portugal	102.505	102.372	−0.13	−0.03	102.5567	4.14	0.28
Spain	85.0722	84.8827	−0.22	−0.18	85.0764	4.21	0.35
Germany	1					3.86	

Source: The WM Company. Fixed rates are bilateral rates agreed by EU May 2/3; forward rates are exchange rates to 31/12/98 interpolated from market quotes; forward interest rates are those implied by these forward exchange rates; Diff int rates v DEM are differences between implied forward interest rates and the DEM forward interest rate for 31/12/98; DEM forward interest rate for 31/12/98 is calculated by interpolation between published BBA market fixings.

BONDS

Bond yield curve
Per cent (May 5 1998)



Source: Interactive Data/FT Information

EUROZONE CORPORATE BONDS

May 05	Red date	Coupon	S & P Rating	Bid price	Bid yld	Day's chge yld	Mth's chge yld	Spread v Ecu
Sovereign Fungible Issues								
Belgium (Kingdom of)	03/08	5.750	N/A	104.880	5.11	0.03	0.08	0.01
France (Rep of)	04/08	5.250	N/A	101.590	5.04	0.03	0.10	−0.06
Italy (Rep of)	05/08	5.000	AA	98.790	5.16	0.03	0.10	0.06
Portugal (Rep of)	06/08	5.375	N/A	101.570	5.17	0.04	0.17	0.07
Euro Issues								
Abbey Natl Treas Srv	02/03	4.875	AA	99.890	4.90	0.09	0.41	0.18
Gen Electric Cap Crp	10/04	5.500	AAA	102.650	5.00	0.03	0.24	0.15
Oest Kontrollbank	04/08	5.250	AAA	100.490	5.19	0.04	0.14	0.09
Cred Local de France	04/08	5.250	AA+	99.140	5.36	0.01	0.16	0.26
Ecu Issues								
Bayer Hypo & Wch Bk	07/01	5.000	A+	101.240	4.57	0.05	0.17	0.06
Cred Foncier France	03/04	8.375	A	114.540	5.41	0.03	0.15	0.56
Euro Inv Bank	04/04	5.250	AAA	102.430	4.77	0.01	0.17	−0.08
ABN Amro Hldg. NV	04/07	6.375	AA−	106.480	5.44	0.03	0.13	0.39

Source: Interactive Data/FT Information. London closing. Fungible bonds issued in tranches by Emu "in" sovereigns and fungible into one big Euro issue 1/1/99; Euro issues are issued in the new currency; Ecu bonds are issued in Ecus but convert to Euros 1/1/99.

GOVERNMENT BOND SPREADS vs ECU

May 05	2 yrs	5 yrs	7 yrs	10 yrs	20 yrs	30 yrs
"Ins"						
Austria	−0.12	−0.01	0.01	−0.01	−0.05	−0.02
Belgium	−0.14	0.01	0.04	0.01	−0.03	−0.01
Finland	−0.56	−0.12	−0.06	−0.11	−0.43	−0.65
France	−0.20	−0.05	−0.08	−0.05	−0.06	−0.09
Germany	−0.20	−0.05	−0.03	−0.13	−0.05	−0.11
Ireland	0.15	0.51	0.10	0.08	0.06	0.14
Italy	0.17	0.20	0.15	0.15	0.16	0.09
Luxembourg	−0.14	0.01	0.04	0.01	−0.03	−0.01
Netherlands	−0.17	−0.05	−0.06	−0.08	−0.03	−0.11
Portugal	−0.09	0.03	0.02	0.02	−0.30	−0.52
Spain	−0.09	0.01	0.08	0.05	0.18	0.31
"Outs"						
Denmark	−0.22	0.28	0.21	0.22	0.11	0.09
Greece	2.65	2.33	2.11	3.34	4.02	5.37
Sweden	−0.09	0.31	0.24	0.17	0.05	−0.17
UK	0.01	0.69	0.38	1.20	1.04	2.04

Source: Interactive Data/FT Information. Table takes common convention constant maturity treasury yield curves for each currency and compares to the constant maturity Ecu curve to calculate a spread.

EUROZONE CREDIT SPREADS vs ECU

May 04	S & P rating	Red date	Coupn	Currency code	Spread	Spread wk ago	mth ago
KFW	N/A	01/09	5.000	DEM	0.07	0.12	0.02
France Telcom	AA+	11/06	6.250	FRF	0.31	0.30	0.31
Dresdner Fin	AA	11/06	6.250	FRF	0.24	0.24	−4.90
Halifax	AA	07/07	5.625	DEM	0.30	0.34	0.30
Ing Bank NV	AA−	01/08	5.500	NLG	0.20	0.31	0.27
Bayer Hypo W Bk	A+	02/02	6.750	ITL	0.80	0.91	0.75
Cred Foncier	A	02/03	7.250	DEM	0.89	0.94	0.87
Thomson-Brandt Intl	A−	03/04	6.375	FRF	0.58	0.63	0.59
Chase Manhattan	A−	09/09	6.125	FRF	0.80	0.82	−4.90
Generale des Eaux	BBB+	03/04	6.250	FRF	0.51	0.62	0.57
Bank of China	BBB	07/99	7.125	DEM	0.95	0.66	0.49
Natl Bk of Hungary	BBB−	06/01	9.000	ATS	1.29	1.42	1.42
Korea Dev Bank	BB+	11/02	5.625	FRF	4.63	4.78	5.43

Source: Interactive Data/FT Information. Table shows yield spreads to the Ecu curve for issues of a broadly representative credit in each rating band denominated in Euro "in" currencies. Data for 5th May unavailable.

FTSE EUROTOP 300

Name	Price (Ecu)	Chge + or −	Mkt cap Ecu(bn)	Vol (m)	Yld
ALCOHOLIC BEVERAGES					
[illegible]					
AUTOMOBILES					
[illegible]					
BANKS RETAIL					
[illegible]					
BREWERIES, PUBS & RESTAURANTS					
[illegible]					
BUILDING MATERIALS & MERCHANTS					
[illegible]					
CHEMICALS					
[illegible]					
CONSTRUCTION					
[illegible]					
DISTRIBUTORS					
[illegible]					
DIVERSIFIED INDUSTRIALS					
[illegible]					
ELECTRICITY					
[illegible]					
ELECTRONIC & ELECTRICAL EQPT.					
[illegible]					
ENGINEERING					
[illegible]					
EXTRACTIVE INDUSTRIES					
[illegible]					
FOOD PRODUCERS					
[illegible]					
GAS DISTRIBUTION					
[illegible]					
HEALTH CARE					
[illegible]					
HOUSEHOLD GOODS & TEXTILES					
[illegible]					
INFORMATION TECHNOLOGY					
[illegible]					
INSURANCE					
[illegible]					
INVESTMENT COMPANIES					
[illegible]					
LEISURE & HOTELS					
[illegible]					
LIFE ASSURANCE					
[illegible]					
MEDIA					
[illegible]					
OIL, EXPLORATION & PRODUCTION					
[illegible]					
OIL, INTEGRATED					
[illegible]					
OTHER FINANCIAL					
[illegible]					
PAPER PACKAGING & PRINTING					
[illegible]					
PHARMACEUTICALS					
[illegible]					
PROPERTY					
[illegible]					
RETAILERS, FOOD					
[illegible]					
RETAILERS, GENERAL					
[illegible]					
SUPPORT SERVICES					
[illegible]					
TELECOMMUNICATIONS					
[illegible]					
TOBACCO					
[illegible]					
TRANSPORT					
[illegible]	14.32	−.5	3.4	1.6	3.8
BAA	9.04	−.2	9.5	12.4	2.6
D/S 1912 B	41,493.63	-1,739.5	4.5	-	0.3
D/S Svend B	57,851.69	-3,886.5	4.3	-	0.3
Lufthansa	21.43	−.7	4.1	3.5	2.1
P & O	13.23	−.1	8.3	13.3	4.3
Railtrack	15.63	−.2	7.9	8.3	2.7
WATER					
Anglian Water	13.29	−.2	2.6	2.5	5.0
Severn Trent	14.17	−.2	4.8	3.8	4.9
Thames Water	14.45	−.1	5.5	2.5	4.6
Utd Utilities	12.65	−.4	6.6	21.6	5.3

Notes

Price data and market capitalisations supplied by FTSE International.

Market capitalisation figures are based on shares used in index calculations. Shares are not counted where foreign ownership restrictions apply. Market caps may include secondary lines not eligible as constituents.

Stocks in bold type are domiciled in Emu countries.

Trading Volumes and yields derived from local domestic markets and supplied by Extel, part of FT Information.

Company classifications are based on those used for the FTSE Eurotop share indices.

German bunds lead prices lower in Europe

GOVERNMENT BONDS

By Vincent Boland in London and John Labate in New York

Prices fell further yesterday on renewed concern about US interest rates, a surprise rise in rates in Denmark, and a rumour that Hans Tietmeyer, president of the Bundesbank, was going to resign over the European central bank row.

Dealers, and Mr Tietmeyer, said the rumour was "absolute nonsense". However, the Bundesbank head did express concern last night that the ECB row had dented the euro's image.

Denmark's 50 basis point *rate rise, which analysts* said was almost entirely for domestic reasons to support the krone – the country is crippled by strikes – was a further excuse for European markets to move lower but did not signal any wider European rate moves.

"The Danish rise has abso*lutely nothing to do with* German interest rates but just got the markets jittery," said Phyllis Reed, bond strategist at Barclays Capital.

The quarter-point cut in Spanish rates, well discounted by the market, was seen as more relevant, pointing the way to convergence of rates ahead of the introduction of the euro at the start of next year.

GERMAN BUNDS again led the weaker tone in Europe, although activity was not heavy in either the *cash or futures markets.*

The June future settled 0.21 lower at 106.83, having attempted an early rally that quickly petered out.

Analysts pointed to the German market's reliance on Treasuries for direction as the main reason for bunds weakening, rather than concern *about the European* Central Bank compromise.

"The markets don't give a hoot about this [ECB]," said David Knott, core Europe strategist at Deutsche Morgan Grenfell. "The sell-off in bunds has more to do with last week's US data than the Bundesbank's attitude to the ECB. The Bundesbank is more concerned with process than personality."

Other European markets weakened in tandem with bunds, with **DANISH BONDS** bearing the brunt of the rate rise. The yield on the benchmark 2007 bond rose 6 basis points to 5.28 per cent, while the yield spread to 10-year bunds widened three points to 30 basis points. Denmark is not in the first group of European monetary union countries.

FRENCH BONDS weak*ened slightly ahead of an* auction of up to FFr23bn of long-dated paper later this week. The June notional future settled 0.20 lower at 103.32 in quiet trading.

UK GILTS were also sluggish, and the spread over 10-year bunds again climbed above 90 basis points, ahead of the regular meeting of the Bank of England's monetary policy committee. Few observers expect a rise in rates, and the consensus is growing that UK rates may have peaked. The focus is mainly on whether the committee will give any signal to that effect after the meeting.

The June gilt future settled ⅜ lower at 108$\frac{13}{32}$, with about 55,000 contracts traded on Liffe. The 10-year spread to bunds closed at 92 basis points as gilts underperformed bunds.

Analysts had predicted that any doubts about the euro would be good for gilts, but it may take a signal on lower interest rates to give the market some new momentum.

US TREASURIES retreated in quiet morning trading. The 30-year bond, the benchmark for long-term US interest rates, lost $\frac{3}{32}$ to 102$\frac{3}{16}$ by mid-day, sending the yield up to 5.958 per cent.

Shorter-term issues also fell. The two-year note lost $\frac{1}{32}$ to 100$\frac{1}{16}$, yielding 5.591 per cent, while the 10-year note fell $\frac{3}{32}$ to 98$\frac{11}{16}$, yielding 5.675 per cent.

Treasuries continued to trade in a narrow range in thin trading, *following a* return to stability this week after last week's swings on interest rate fears.

In the morning market an official of the National Association of Purchasing Management said that capacity utilisation levels were being reduced by a slowdown in demand.

*There were few major eco*nomic reports released yesterday. However, the index of leading economic indicators rose 0.2 per cent in March, following a 0.4 per cent rise in February.

The release was in line with analysts' expectations and had little immediate impact on the market.

Today, analysts expect the release of data about manufactureres' orders and the Federal Reserve's "beige book" report.

Fannie Mae set to price its fifth jumbo of 1998

INTERNATIONAL BONDS

By Edward Luce

The Federal National Mortgage Association (Fannie Mae) will today price its latest jumbo issue – the fifth *since it launched its "refer*ence notes" programme earlier this year.

The 10-year $3bn offering, which will be priced at about 33 basis points over the 10-year Treasury, takes the borrower's total jumbo issuance to just under $20bn for the year – roughly half what it hopes to raise in the bond markets during 1998.

The bond, lead-managed by Credit Suisse First Boston, Lehman Brothers and Morgan Stanley Dean Witter, is its second 10-year jumbo. *Ite has also issued two five*-year bonds and a three-year.

"Fannie Mae is certainly sticking to its commitment to provide a liquid and consistent yield curve," said one trader. "Unlike some other large international borrowers, it has pledged to service the market regularly, even *when it might not be an opti*mal moment from the commercial point of view."

Bond analysts remain divided on whether such issues save on costs, although it was clear Fannie Mae's inaugural jumbo in January was around five basis points tighter than where a smaller issue would have been priced.

Fannie Mae's existing 10-year benchmark is trading at about 32 to 33 basis points over Treasuries in the secondary markets – roughly *five basis points wider than* the World Bank benchmark.

The **CITY OF MOSCOW** followed its sovereign to the Italian lira sector with a slightly smaller offering than expected. The L400bn issue – some way short of the maximum L750bn permitted – was priced at 525 *basis points over the Italian* three-year swaps curve.

Traders said the bond, which was lead-managed by Chase Manhattan, was given a respectable but not overwhelming reception. Most of the distribution went to Italian investors.

Finland is expected to launch its debut euro-denominated offering later this week as part of its domestic bond programme.

Other borrowers in the pipeline include Slovenia (another debut euro offering) and *France Telecom* in a 10-year dollar issue.

New international bond issues

Borrower	Amount m.	Coupon %	Price	Maturity	Fees %	Spread bp	Book-runner
■ US DOLLARS							
Fannie Mae	3bn	(a.)#	(a)R	May 2008	0.15R	(a)(5½Feb08)	CSFB/Lehman/MSDW
ING Bank‡	1bn	(b)	99.915R	May 2003	0.15R	-	JP Morgan Securities
Spintab‡	500	(c)	100.03	May 1999	0.05	-	CSFB
Eurofima	400	5.75	99.538R	May 2002	0.225R	+20(5⅝Feb01)	Paribas/TMI
Bankers Trust Australia(d)‡	250	(d1)	99.812R	Jun 2008	0.375R	-	PaineWebber Intl(UK)
Movicom	150	9.25#	99.155	May 2008	undiscl	+370(Feb08)	Chase Manhattan Intl
■ D-MARKS							
SPT Telecom(f)	250	5.125	99.647R	May 2003	0.30R	+58(5%Nov02)	Deutsche Bank
■ YEN							
Huson Pty Ltd(g)*	21bn	(g1)	100.00	Jun 2003	zero	-	Sanwa International
■ ITALIAN LIRE							
City of Moscow	400bn	9.875	99.64R	May 2001	0.50R	+525(swaps)	Chase Manhattan Intl
■ SWISS FRANCS							
DeNIB	200	2.75	101.80	Jun 2003	2.00	-	ABN Amro(Zurich Branch)
■ EUROS(e)							
Irish Permanent B/S‡	320	(h)	99.74R	May 2003	0.15R	-	Paribas
Bayerische Hypo(j)	150	8.50	99.25	Jun 2000	2.00	-	BayerHypo/BayerVB
Crédit Local de France(k)	50	Zero	100.00	Jun 2006	None	-	BNP
Bacob Overseas	50	5.00(l)	102.10	Aug 2003	1.875	-	Artesia Luxembourg
■ CANADIAN DOLLARS							
CIBC(m)‡	100	(m1)	99.688R	May 2003	0.20R	-	CIBC Wood Gundy
■ NEW ZEALAND DOLLARS							
National Australia Bank	100	8.25	100.87	Jun 2000	1.25	-	RBC DS Global Markets
■ PESETAS							
Helaba	12bn	5.60	99.075	May 2018	Undiscl	-	Caja Madrid/Merrill
■ GREEK DRACHMA							
European Inv'ment Bank(n)	30bn	(n1)	99.67R	Apr 2004	0.275R	-	ABN Amro/Credito

Final terms, non-callable unless stated. Yield spread (over relevant government bond) at launch supplied by lead manager. *Unlisted. ‡ Floating-rate note. #Semi-annual coupon. R: fixed re-offer price; fees shown at re-offer level. a) Priced today 33-34bp over Treasuries. b) 3-mth Libor flat. c) 3-mth Libor -6¼bp. d) Callable from Jun 03 at par. d1) 3-mth Libor +30bp to Jun 03, then +80bp. e) Pays in Ecu prior to Emu. f) DM500m launched 23/4/98 increased to DM750m. g) Backed by Australian corporate loans. g1) 3-mth Libor +⅛%. h) 3-mth Libor +6¼bp. j) Issuers choice to redeem at par or 4 Volkswagen shares per DM5,000 bond. k) Redemption price: 100% + performance of Dexia France shares; max 306%. l) Long 1st coupon. m) C$250m launched 23/4/98 increased to C$350m. m1) 3-mth BA's +7bp. n) Fungible with E1.3bn, LFr2bn, DM1bn, and L750bn upon Emu. n1) 7⅛% to 15/4/99, 5½% to 00, 5½% to 01, then 5¼%.

NEWS DIGEST

FOOTBALL

AFC Ajax to raise Fl 124m through share offering

AFC Ajax, the star Dutch football club, was yesterday set to raise Fl 123.75m ($61.65m) through a share issue priced at Fl 25 apiece. The 4.95m units on offer represent 27 per cent of the club's capital, with a significant amount pre-placed *among more than* 15,000 supporters.

In addition to the supporters' preferential allocation, Ajax is making about 3 per cent of its equity available as the basis of an option scheme for staff, including players.

Subscriptions for institutions and general retail investors in the issue, which is being led by ABN Amro Rothschild, are to close by Friday. *Trading on the Amsterdam stock exchange is* due to begin next Monday. **Gordon Cramb, Amsterdam**

MANNESMANN CAPITAL-RAISING

Merrill to be joint co-ordinator

Mannesmann, the German conglomerate, has named Merrill Lynch, the US-based investment bank, as its joint global co-ordinator for a DM3bn ($1.7bn) capital increase. The capital-raising, announced earlier this year, will be via a public issue of new shares in Germany and private placements in the rest of the world.

Deutsche Bank has already been named as the other global co-ordinator of the exercise, with Goldman Sachs as a lead *manager. Global book-building* will start in June.

The funds from the increase are expected to be used to finance growth in telecommunications. Mannesmann already runs D2, Germany's *largest mobile telecoms network.* It was also one of the first companies to take advantage of the January 1 liberalisation of the German fixed telecoms market, with Arcor, its joint venture with *Deutsche Bahn, the railway* company. **Lucy Smy, Bonn**

VENEZUELA

Cisneros places $80m of notes

Venezuela's Cisneros Group has placed $80m of notes with a coupon of 11 per cent for Imasac, its Argentine media holding company. The notes were *purchased* by institutional investors in Latin America, Europe and the US.

The proceeds from the placement will be used primarily to refinance the principal and accrued interest on a $50m loan used by Cisneros to acquire Imagen Satelital, an Imasac subsidiary, as well as to fund the first three years of interest payments on the notes and other expenses.

Cisneros Group acquired Imagen Satelital, Argentina's leading cable television programmer, in 1997 as part of its regional expansion. Bear Stearns was the lead manager for the placement. New York-based Violy, Byorum & Partners *acted as financial advisers on the issue.*

Raymond Colitt, Caracas

WORLD BOND PRICES

BENCHMARK GOVERNMENT BONDS

May 5	Red Date	Coupon	Bid Price	Bid Yield	Day chg yield	Wk chg yield	Month chg yld	Year chg yld
Australia	04/00	7.000	103.5886	5.03	-	+0.05	+0.10	-1.38
	10/07	10.000	130.0159	5.71	-0.01	+0.01	+0.12	-2.05
Austria	09/99	7.000	103.6600	4.16	-0.02	+0.06	+0.04	+0.28
	07/07	5.625	103.9900	5.07	+0.04	-0.03	+0.16	-0.68
Belgium	01/00	4.000	99.6000	4.24	-	+0.03	+0.15	+0.50
	03/07	6.250	108.3000	5.07	+0.02	-0.04	+0.15	-0.80
Canada	09/99	4.750	99.4900	5.14	+0.04	-0.06	+0.35	+0.53
	06/07	7.250	113.1000	5.39	+0.04	-0.08	+0.20	-1.10
Denmark	12/99	6.000	101.7700	4.79	+0.26	+0.31	+0.49	+0.75
	11/07	7.000	112.3000	5.32	+0.10	+0.03	+0.25	-1.12
Finland	01/99	11.000	104.6906	3.85	+0.04	-	+0.14	+0.14
	04/06	7.250	114.5200	4.99	+0.03	-0.03	+0.19	-1.14
France	01/00	4.000	99.6971	4.18	+0.04	+0.05	+0.13	+0.47
	10/04	6.750	110.7100	4.78	+0.02	-0.02	+0.16	-0.45
	10/07	5.500	103.5900	5.01	+0.04	-0.04	+0.16	-0.67
	10/25	6.000	106.6900	5.62	+0.04	-0.06	+0.14	-1.02
Germany	09/99	4.000	99.9300	4.04	+0.01	+0.05	+0.13	+0.48
	11/04	7.500	114.5500	4.83	+0.04	-0.01	+0.17	-0.45
	07/07	6.000	107.2200	4.99	+0.03	-0.05	+0.16	-0.77
	07/27	6.500	114.0300	5.52	-0.03	-0.07	+0.13	-1.02
Ireland	04/99	6.250	101.0000	5.06	-0.04	-0.03	+0.30	-1.07
	08/06	8.000	118.6500	5.17	+0.02	-0.02	+0.22	-1.55
Italy	05/00	6.000	102.7000	4.58	+0.05	+0.01	+0.11	-2.13
	05/02	6.250	105.2100	4.81	-0.05	-0.01	+0.14	-2.21
	07/07	6.750	111.4200	5.17	+0.05	-0.02	+0.14	-2.33
	11/26	7.250	122.5000	5.65	+0.02	-0.05	+0.11	-2.40
Japan	03/00	6.400	110.9400	0.47	-0.01	-0.05	-0.18	-0.39
	12/02	4.800	116.9000	1.03	-0.01	-0.03	-0.25	-0.72
	09/05	3.000	110.1900	1.50	-	-0.02	-0.24	-0.80
	09/17	3.000	110.1100	2.35	-	-0.03	-0.21	-0.66
Netherlands	11/00	7.500	104.7700	4.17	+0.04	+0.03	+0.13	+0.47
	02/07	5.750	105.4300	4.97	+0.04	-0.04	+0.15	-0.65
New Zealand	02/00	6.500	97.9954	7.73	+0.04	-0.02	-0.06	+0.35
	11/06	8.000	107.4625	6.81	+0.01	-0.03	-0.05	-0.95
Norway	01/99	9.000	103.1300	4.49	+0.05	-0.01	+0.26	+0.49
	01/07	6.750	109.2000	5.49	+0.01	-0.04	+0.22	-0.66
Portugal	03/99	8.500	103.5297	4.27	+0.04	-0.01	+0.15	-1.33
	02/07	6.625	110.4700	5.11	+0.03	-0.04	+0.15	-1.53
Spain	07/99	7.400	101.6900	4.23	+0.07	+0.04	+0.10	-1.16
	03/07	7.350	115.6800	5.11	+0.05	-0.04	+0.16	-1.60
Sweden	01/99	11.000	104.1376	4.76	+0.05	+0.07	+0.08	-0.20
	08/07	8.000	119.5810	5.27	+0.04	-0.05	+0.13	-1.94
Switzerland	03/00	5.000	105.4700	1.94	+0.02	-0.02	+0.17	+0.18
	06/07	4.500	111.0000	3.08	+0.05	-0.06	+0.25	-0.45
UK	[illegible]							
US	[illegible]							
ECU	[illegible]							

London closing. *New York mid-day. Source: Interactive Data/FT Information

10 YEAR BENCHMARK SPREADS

[illegible]

EMERGING MARKET BONDS

[illegible]

BOND FUTURES AND OPTIONS

France

■ NOTIONAL FRENCH BOND FUTURES (MATIF) FFr500,000

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Jun	103.61	103.32	-0.20	103.61	103.23	65,164	86,335
Sep	103.06	102.86	-0.20	103.32	103.22	2	3,913

■ LONG TERM FRENCH BOND OPTIONS (MATIF)

[illegible]

Germany

[illegible]

Italy

[illegible]

Spain

[illegible]

UK

[illegible]

US

[illegible]

Japan

[illegible]

Ecu

■ ECU BOND FUTURES (MATIF) ECU100,000

	Open	Sett price	Change	High	Low	Est. vol.	Open int.
Jun	102.52	103.10	-0.06	102.52	102.36	32	5,118

US CORPORATE BONDS

May 4	Red date	Coupon	S & P Rating	Bid price	Bid yield	Day's chge yld	Mth's chge yld	Sprd v Govts
■ UTILITIES								
Pac Bell	07/02	7.25	AA-	104.1487	6.10	-0.03	+0.16	+0.47
NY Tel	08/25	7.00	A+	98.1815	7.06	-0.01	+0.12	+1.12
CWE	05/08	8.00	BBB	110.3899	6.56	-0.01	+0.19	+0.90
■ FINANCIALS								
GECC	05/07	8.75	AAA	117.1907	6.23	-	+0.20	+0.57
Banc One	08/02	7.25	A+	103.7957	6.21	-0.04	+0.17	+0.58
US West	01/07	7.30	BBB+	105.0577	6.52	-0.01	+0.20	+0.86
■ INDUSTRIALS								
WMX Tech	04/99	6.25	BBB	100.0422	6.19	+0.03	+0.18	+1.05
Wal Mart	05/02	6.75	AA	102.3773	6.07	-0.04	+0.17	+0.44
Dayton Hud	06/21	9.70	BBB+	132.0566	6.90	-	+0.16	+0.96
■ AGENCIES								
FHLMC	04/07	7.14	N/A	107.7973	5.99	-0.01	+0.20	+0.33
SLMA	03/00	7.50	N/A	102.9847	5.76	-	+0.20	+0.17
FNMA	03/18	8.95	N/A	130.6681	6.22	-0.01	+0.15	+0.28
FFCB	06/06	8.95	N/A	119.1717	5.92	-0.01	+0.20	+0.26
■ HIGH YIELD								
Stone Cont	02/01	9.88	B	103.0000	0.00	-	-	-
AK Stl	12/01	9.13	BB-	106.2500	0.00	-	-	-
Pacalla	06/04	10.75	B-	102.7500	0.00	-	-	-

NY closing. Standard & Poor's ratings. Yields: semi-annual basis. Source: Interactive Data/FT Information.

US INTEREST RATES

Latest		Treasury Bills and Bond Yields			
Prime rate	8½	One month	-	Two year	5.59
Broker loan rate	7¼	Two month	-	Three year	5.62
Fed.funds	5⅞	Three month	5.09	Five year	5.63
Fed.funds at intervention	-	Six month	5.31	10-year	5.67
		One year	5.41	30-year	5.95

INTERNATIONAL BONDS

May 5	Red date	Coupon	S & P Rating	Bid price	Bid yld	Day's chge yld	Mth's chge yld	Spread v Govts
■ EURO DM								
EIB	02/07	5.750	AAA	104.9700	5.03	+0.02	+0.17	+0.04
Spain	01/07	5.750	AA	104.5000	5.09	+0.03	+0.19	+0.10
Philip Morris	03/04	5.375	A	101.1800	5.13	+0.02	+0.16	+0.35
Finland FRN	09/02	3.570	AA	100.6132	4.10	+0.02	+0.16	-0.45
■ EURO FFR								
Austria	01/04	5.500	AAA	103.3800	4.80	+0.03	+0.17	+0.07
Abbey Nat	02/04	6.000	AA	105.4100	4.90	+0.02	+0.16	+0.17
Cred Foncier	02/04	9.125	A	119.7500	5.09	+0.04	+0.17	+0.36
3CIF FRN	12/01	3.625	AA-	99.8127	4.30	+0.08	+0.17	-0.13
■ EURO LIRA								
EIB	02/07	7.000	AAA	112.7500	5.15	+0.01	+0.06	-0.03
Abbey Nat	02/02	6.800	AA	108.5500	4.66	+0.01	+0.09	+0.04
Walt Disney	06/00	8.625	A	107.3800	4.87	-	+0.04	+0.26
EIB FRN	03/01	5.356	AAA	100.1130	4.46	+0.04	+0.14	-0.26
■ EURO £								
EIB	12/07	7.625	AAA	110.5313	6.13	+0.05	+0.03	+0.29
Dresdner Bk	12/07	7.750	AA-	107.7725	6.62	+0.05	+0.03	+0.78
British Gas	03/00	7.625	A+	101.2064	6.91	+0.08	-0.01	+0.43
Abbey Nat FRN	02/02	7.713	AA	99.9583	6.06	+0.07	-0.01	-0.03
■ EURO $								
EIB	04/07	7.250	AAA	108.2300	6.03	-0.01	+0.18	+0.36
ABN Amro	06/07	7.125	AA-	104.7267	6.43	+0.01	+0.20	+0.76
Quebec	01/07	7.000	A+	104.4269	6.33	+0.01	+0.15	+0.66
Citicorp FRN	02/04	5.734	A+	100.0868	5.70	+0.01	+0.09	+0.05
■ EURO C$								
Bayer L-Bk	08/04	9.500	AAA	119.6731	5.67	+0.06	+0.12	+0.14
Toronto	05/04	8.500	AA+	114.3675	5.63	+0.06	+0.15	+0.10
Bell Canada	07/99	10.625	A+	105.5718	5.60	+0.09	+0.20	+0.96
Deutsche B FRN	03/02	5.875	AAA	101.3914	5.51	+0.07	+0.17	+0.07
■ EURO YEN								
World Bank	03/02	5.250	AAA	116.5500	0.89	-	-0.25	+0.17
Spain	03/02	5.750	AA	118.4000	0.90	-	-0.24	+0.18
Cred Foncier	08/02	4.750	A	113.8383	1.38	-	-0.25	+0.66
Italy FRN	07/99	0.711	AA	100.3505	0.14	-	-0.13	-0.10

London closing. Standard & Poor's ratings. Yields: Local market standard/annualised basis. Source: Interactive Data/FT Information

UK BONDS

FTSE Actuaries Govt. Securities

Price Indices UK Gilts	Tue May 5	Day's change %	Fri May 1	Accrued interest	xd adj. ytd
1 Up to 5 years (18)	120.37	-0.17	120.58	2.51	3.47
2 5-15 years (20)	164.51	-0.41	165.18	3.46	2.80
[illegible]					

UK Indices

	Low coupon yield May 5	May 1	Yr. ago	Medium coupon yield May 5	May 1	Yr. ago	High coupon yield May 5	May 1	Yr. ago
5 yrs	5.97	5.88	7.36	6.06	5.98	7.42	6.07	5.99	7.46
15 yrs	5.77	5.71	7.75	5.80	5.74	7.77	5.90	5.84	7.63
20 yrs	5.77	5.71	7.81	5.79	5.73	7.80	5.90	5.84	7.63
[illegible]									

FT Fixed Interest Indices

[illegible]

UK GILTS PRICES

[illegible]

Other Fixed Interest

[illegible]

Optimism for Europe buoys D-Mark

MARKETS REPORT

By Simon Kuper

The D-Mark soared yesterday, unexpectedly benefiting from the weekend's European Union summit in Brussels.

The fudged deal struck at the summit over the presidency of the European central bank was forecast to hurt the credibility of the ECB and thus damage the D-Mark against the dollar. Wim Duisenberg will start as ECB president, but will let Jean-Claude Trichet succeed him during his eight-year term. However, investors paid little attention to the fudge, noting instead that the ECB's board was full of hawks and that almost all the details of European monetary union have now been sorted out. They poured out of the dollar, pound and Swiss franc, which had all functioned as safe havens from Emu, into the D-Mark.

They were also encouraged by the growing economic recovery in Europe. There is increasing talk in the market that the Bundesbank will raise interest rates soon. Some argue that the fudge over the ECB could prompt the bank into an increase, as a way of proving that European monetary policy would stay tight. Others noted yesterday's Danish rate rise, saying that other northern European central banks could follow suit. Denmark raised its discount and repo rates 50 basis points each to 4.00 per cent and 4.25 per cent respectively.

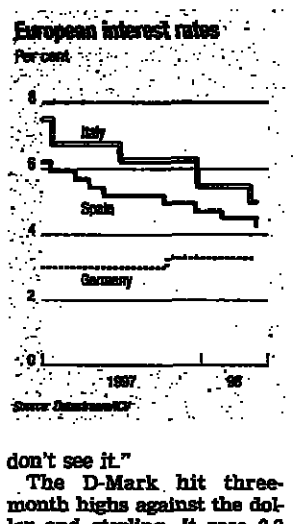
However, Nick Parsons, currency strategist at Paribas Capital Markets in London, rejected the idea that Denmark or the ECB row could push the Bundesbank into a rate increase. Denmark was not joining Emu, he pointed out, and could therefore set interest rates without worrying about rate levels inside the Emu-zone. He said the talk about Denmark and the ECB simply provided pension and investment funds with excuses to buy D-Marks. He noted that Euromark futures contracts, which reflect the market's forecast for German interest rates, ended the day barely changed.

Mr Parsons said investors had wanted to buy D-Marks because of the end of Emu doubts, the start of the European upturn, and the fact that three years of a rising dollar had left them short of the German currency.

Steven Englander, international economist at Salomon Smith Barney in London, said: "The market seems to have worked itself into a tizzy over the imminence of a German rate rise, but I don't see it."

The D-Mark hit three-month highs against the dollar and sterling. It rose 0.9 pfgs against the dollar to close in London at DM1.773 and gained 2.7 pfgs against the pound to DM2.941. The pound has now dropped 17 pfgs in the last five weeks.

Spain cut its key money rate by 25 basis points to 4.25 per cent as expected.



■ The yen was even stronger than the D-Mark yesterday. It rose Y1.5 against the dollar to Y131.7 after Robert Rubin, US treasury secretary, fed rumours that he might be resigning soon and said that a falling yen would not necessarily help Japan's economy.

Mr Rubin confirmed that he would stay in his post until the end of the year, which led many in the market to conclude that he would leave it soon after.

■ Denmark has no plans to join Emu – a fact that seems to have escaped some traders yesterday. Because it is staying out of Emu, its interest rates can move in isolation. The Bank of Denmark explained yesterday's rate rise by saying: "In the past few months there has been a tendency of the crown weakening, and the central bank has sold foreign currencies since February to support the crown." The crown's tendency to fall had worsened in April and May, the bank said, so it was raising rates.

Clearly, the crown has fallen victim to the trend for investors to return to the Emu-zone from safe haven currencies.

■ Strangely, given that all the talk yesterday was of German rate rises, the main movement in the money market was in short sterling futures contracts. These fell up to 5 basis points, as traders priced in a stronger chance that the Bank of England might raise interest rates after its two-day monetary policy committee meeting starting today.

■ POUND IN NEW YORK

May 5	—Latest—	—Prev. close—
£ spot	1.6600	1.6665
1 mth	1.6574	1.6639
3 mth	1.6529	1.6594
1 yr	1.6375	1.6445

■ OTHER CURRENCIES

May 5	£	$
Czech Rp	53.6872 - 53.7793	32.3750 - 32.4050
Hungary	346.896 - 347.268	209.210 - 209.260
Iran	4976.80 - 4975.80	3000.00 - 3000.00
Kuwait	0.5060 - 0.5065	0.3051 - 0.3052
Peru	4.7021 - 4.7083	2.8350 - 2.8370
Poland	5.5729 - 5.5812	3.3600 - 3.3630
Russia	10.1340 - 10.1426	6.1100 - 6.1115
U.A.E.	6.0915 - 6.0959	3.6727 - 3.6731

POUND SPOT FORWARD AGAINST THE POUND

May 5		Closing mid-point	Change on day	Bid/offer spread	Day's Mid high	Day's Mid low	One month Rate	One month %PA	Three months Rate	Three months %PA	One year Rate	One year %PA	Bank of Eng. index
Europe													
Austria	(Sch)	20.6951	-0.186	852 - 050	20.9079	20.8602	20.8256	4.0	20.5054	3.7	20.0567	3.1	103.0
Belgium	(BFr)	60.6534	-0.5814	970 - 098	61.2740	60.5960	60.459	3.8	60.1039	3.6	58.7689	3.1	102.4
Denmark	(DKr)	11.2169	-0.1057	118 - 219	11.3319	11.1989	11.1873	3.2	11.1345	2.9	10.9342	2.5	104.5
Finland	(FM)	8.9379	-0.0735	319 - 439	9.0250	8.9270	8.9085	3.9	8.857	3.6	8.6623	3.1	80.5
France	(FFr)	9.8611	-0.0893	546 - 675	9.9648	9.8494	9.8277	4.1	9.7686	3.8	9.5511	3.1	105.8
Germany	(DM)	2.9412	-0.0264	399 - 425	2.9715	2.9355	2.9313	4.0	2.9139	3.7	2.8491	3.1	103.8
Greece	(Dr)	509.510	-6.155	190 - 829	517.962	509.014	511.701	-5.2	515.169	-4.4	527.002	-3.4	59.6
Ireland	(I£)	1.1700	-0.0108	688 - 712	1.1835	1.1687	1.1688	1.1	1.1661	1.4	1.1465	2.0	94.2
Italy	(L)	2901.64	-27.67	940 - 389	2934.39	2898.44	2896.43	2.2	2884.14	2.4	2824.7	2.7	75.8
Luxembourg	(LFr)	60.6534	-0.5814	970 - 098	61.2740	60.5890	60.459	3.8	60.1039	3.6	58.7689	3.1	102.4
Netherlands	(Fl)	3.3133	-0.0306	119 - 147	3.3465	3.3064	3.3021	4.1	3.2826	3.7	3.209	3.1	101.8
Norway	(NKr)	12.2119	-0.1081	028 - 210	12.3317	12.1929	12.1755	3.6	12.1136	3.2	11.9018	2.5	97.9
Portugal	(Es)	301.102	-3.073	903 - 300	304.897	300.890	300.326	3.1	298.723	3.2	292.2	3.0	91.7
Spain	(Pta)	249.661	-2.618	553 - 770	252.320	249.470	249.008	3.1	247.75	3.1	242.412	2.9	78.8
Sweden	(SKr)	12.6493	-0.1605	404 - 581	12.8131	12.6286	12.6171	3.1	12.56	2.8	12.3521	2.3	87.4
Switzerland	(SFr)	2.4613	-0.0203	597 - 628	2.4953	2.4567	2.4485	6.2	2.4252	5.9	2.3346	5.1	105.1
UK	(£)	-	-	-	-	-	-	-	-	-	-	-	104.5
Ecu	-	1.4915	-0.0113	902 - 927	1.5037	1.4894	1.4874	3.3	1.4799	3.1	1.449	2.8	-
SDR†	-	1.228100	-	-	-	-	-	-	-	-	-	-	-
Americas													
Argentina	(Peso)	1.6589	-0.0067	583 - 594	1.6672	1.6575	-	-	-	-	-	-	-
Brazil	(R$)	1.8990	-0.0069	983 - 996	1.9068	1.8975	-	-	-	-	-	-	-
Canada	(C$)	2.3886	-0.0011	874 - 897	2.3935	2.3871	2.3832	2.7	2.3743	2.4	2.3426	1.9	81.9
Mexico	(New Peso)	14.0617	-0.0568	533 - 701	14.1127	14.0450	14.2105	-12.7	14.4936	-12.3	15.8067	-12.4	-
USA	($)	1.6591	-0.0067	586 - 596	1.6675	1.6580	1.6565	1.9	1.652	1.7	1.6366	1.4	109.2
Pacific/Middle East/Africa													
Australia	(A$)	2.5861	+0.0018	863 - 899	2.6009	2.5851	2.5827	2.5	2.5723	2.4	2.5315	2.2	84.1
Hong Kong	(HK$)	12.8561	-0.0509	518 - 604	12.9198	12.8488	12.8402	1.5	12.8294	0.8	12.9849	-1.0	-
India	(Rs)	65.9783	-0.2123	128 - 438	66.2580	65.8950	-	-	-	-	-	-	-
Israel	(Shk)	6.1355	-0.0232	267 - 443	6.1579	6.1283	-	-	-	-	-	-	-
Japan	(Y)	218.570	-3.298	438 - 702	221.880	218.300	217.245	7.3	214.785	6.9	204.465	6.5	117.1
Malaysia	(M$)	6.1138	+0.0086	036 - 239	6.1537	6.0665	6.1499	-7.1	6.2189	-6.9	6.4853	-6.1	-
New Zealand	(NZ$)	3.0097	-0.0007	069 - 125	3.0342	3.0041	3.0133	-1.4	3.0199	-1.4	3.048	-1.3	97.4
Philippines	(Peso)	65.1612	-0.5547	171 - 053	65.3660	64.9860	65.7185	-10.3	66.6499	-9.1	71.2264	-9.3	-
Saudi Arabia	(SR)	6.2223	-0.0252	202 - 243	6.2536	6.2150	6.2158	1.3	6.2037	1.2	6.1669	0.9	-
Singapore	(S$)	2.6268	-0.0065	247 - 288	2.6457	2.6181	2.6245	1.1	2.6209	0.9	2.6093	0.7	-
South Africa	(R)	8.3909	-0.0439	858 - 959	8.4415	8.3829	8.4405	-7.1	8.52	-6.2	8.8543	-5.5	-
South Korea	(Won)	2234.81	-9.02	082 - 880	2242.79	2227.99	-	-	-	-	-	-	-
Taiwan	(T$)	54.7659	-0.2203	454 - 864	55.0408	54.7366	54.7747	-0.2	54.7876	-0.2	54.9178	-0.3	-
Thailand	(Bt)	63.7925	-0.4242	073 - 776	64.3530	63.5040	65.3501	-29.3	68.74	-18.5	71.5219	-12.1	-

† Rates for May 4. Bid/offer spreads in the Pound Spot table show only the last three decimal places. Sterling index calculated by the Bank of England. Base average 1990 = 100. Index rebased 1/2/95. The exchange rates printed in this table are also available on the Internet at http://www.FT.com

DOLLAR SPOT FORWARD AGAINST THE DOLLAR

May 5		Closing mid-point	Change on day	Bid/offer spread	Day's mid high	Day's mid low	One month Rate	One month %PA	Three months Rate	Three months %PA	One year Rate	One year %PA	J.P Morgan index
Europe													
Austria	(Sch)	12.4737	-0.0615	715 - 759	12.5480	12.4442	12.4511	2.2	12.4127	2.0	12.2547	1.8	102.8
Belgium	(BFr)	36.5580	-0.202	350 - 810	36.7900	36.4800	36.4975	2.0	36.383	1.9	35.908	1.8	102.3
Denmark	(DKr)	6.7608	-0.0383	598 - 618	6.8052	6.7426	6.7534	1.3	6.7401	1.2	6.6808	1.2	103.8
Finland	(FM)	5.3872	-0.0225	852 - 892	5.4201	5.3754	5.3778	2.1	5.3614	1.9	5.2927	1.8	80.2
France	(FFr)	5.9436	-0.0298	415 - 457	5.9830	5.9295	5.9328	2.2	5.9132	2.0	5.8357	1.8	105.3
Germany	(DM)	1.7728	-0.0087	725 - 730	1.7838	1.7678	1.7696	2.2	1.7639	2.0	1.7409	1.8	103.5
Greece	(Dr)	307.100	-2.48	000 - 200	311.100	306.700	308.9	-7.0	311.85	-6.2	322	-4.9	59.2
Ireland	(I£)	1.4181	+0.0074	170 - 191	1.4220	1.4070	1.4171	0.8	1.4167	0.4	1.4276	-0.7	-
Italy	(L)	1748.93	-9.57	810 - 975	1761.55	1745.00	1748.51	0.3	1745.88	0.7	1725.91	1.3	75.6
Luxembourg	(LFr)	36.5580	-0.202	350 - 810	36.7900	36.4800	36.4975	2.0	36.383	1.9	35.908	1.8	102.3
Netherlands	(Fl)	1.9971	-0.0103	968 - 973	2.0099	1.9912	1.9934	2.2	1.9871	2.0	1.9607	1.8	101.6
Norway	(NKr)	7.3606	-0.0352	573 - 638	7.4051	7.3411	7.3501	1.7	7.3328	1.5	7.2721	1.2	96.4
Portugal	(Es)	181.485	-1.115	420 - 550	183.430	181.300	181.299	1.2	180.828	1.4	178.535	1.6	92.2
Spain	(Pta)	150.480	-0.985	460 - 500	151.500	150.290	150.32	1.3	149.972	1.3	148.115	1.6	76.5
Sweden	(SKr)	7.6242	-0.0857	211 - 272	7.6932	7.6101	7.6166	1.2	7.603	1.1	7.5472	1.0	86.8
Switzerland	(SFr)	1.4835	-0.0062	830 - 840	1.4922	1.4787	1.4781	4.4	1.4681	4.2	1.4284	3.8	104.6
UK	(£)	1.6591	-0.0067	586 - 596	1.6675	1.6570	1.6585	1.9	1.652	1.7	1.6366	1.4	105.1
Ecu	-	1.1124	+0.0038	118 - 130	1.1152	1.1075	1.1137	-1.4	1.1163	-1.4	1.1295	-1.5	-
SDR†	-	0.74020	-	-	-	-	-	-	-	-	-	-	-
Americas													
Argentina	(Peso)	0.9999	-	998 - 999	0.9999	0.9998	-	-	-	-	-	-	-
Brazil	(R$)	1.1446	+0.0005	445 - 446	1.1447	1.1443	-	-	-	-	-	-	-
Canada	(C$)	1.4397	+0.0051	394 - 399	1.4403	1.4342	1.4387	0.8	1.4372	0.7	1.4313	0.6	82.4
Mexico	(New Peso)	8.4755	-	730 - 780	8.4790	8.4720	8.5785	-14.6	8.7735	-14.1	9.658	-14.0	-
USA	($)	-	-	-	-	-	-	-	-	-	-	-	110.4
Pacific/Middle East/Africa													
Australia	(A$)	1.5589	+0.0073	583 - 605	1.5625	1.5564	1.5591	0.8	1.5565	0.9	1.5458	0.9	85.3
Hong Kong	(HK$)	7.7489	+0.0008	486 - 491	7.7495	7.7480	7.7514	-0.4	7.7661	-0.9	7.9339	-2.4	-
India	(Rs)	39.7675	+0.0325	400 - 950	39.8000	39.7300	-	-	-	-	-	-	-
Israel	(Shk)	3.6981	+0.0009	939 - 023	3.7040	3.6916	-	-	-	-	-	-	-
Japan	(Y)	131.740	-1.45	700 - 780	133.200	131.500	131.145	5.4	130.015	5.2	124.93	5.2	117.3
Malaysia	(M$)	3.6850	+0.02	800 - 900	3.6975	3.6370	3.7125	-9.0	3.7646	-8.6	3.9625	-7.5	-
New Zealand	(NZ$)	1.8141	+0.0069	129 - 152	1.8265	1.8093	1.8172	-2.1	1.8228	-1.9	1.8414	-1.5	-
Philippines	(Peso)	39.2750	-0.175	000 - 500	39.3800	39.1700	39.6725	-12.1	40.3455	-10.9	43.5195	-10.8	-
Saudi Arabia	(SR)	3.7504	-	503 - 505	3.7507	3.7501	3.7523	-0.6	3.7563	-0.5	3.769	-0.5	-
Singapore	(S$)	1.5833	+0.0025	825 - 840	1.5870	1.5733	1.5844	-0.8	1.5865	-0.8	1.5943	-0.7	-
South Africa	(R)	5.0575	-0.006	560 - 590	5.0660	5.0560	5.0953	-9.0	5.1575	-7.9	5.41	-7.0	-
South Korea	(Won)	1347.00	-	500 - 900	1351.08	1343.00	-	-	-	-	-	-	-
Taiwan	(T$)	33.0100	+0.0005	070 - 130	33.0210	32.9900	33.065	-2.0	33.165	-1.8	33.555	-1.7	-
Thailand	(Bt)	38.4500	-0.1	500 - 500	38.6200	38.3300	39.45	-31.2	40.4	-20.3	43.7	-13.7	-

† SDR rate per $ for May 4. Bid/offer spreads in the Dollar Spot table show only the last three decimal places. UK, Ireland & ECU are quoted in US currency. J.P. Morgan nominal indices May 4: Base average 1990=100. Bid, offer, mid spot rates and forward rates in both this and the Dollar table are derived from THE WM/REUTERS CLOSING SPOT and FORWARD RATE services. Some values are rounded by the F.T.
The exchange rates printed in this table are also available on the Internet at http://www.FT.com

WORLD INTEREST RATES

MONEY RATES

May 5	Over night	One month	Three mths	Six mths	One year	Lomb. inter.	Dis. rate	Repo rate
Belgium	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	6.00	2.75	-
France	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4.60	-	3.30
Germany	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4.50	2.50	3.30
Ireland	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-	-	6.75
Italy	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	6.50	5.00	5.63
Netherlands	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-	2.75	3.30
Switzerland	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-	1.00	-
US	5½	[illegible]	[illegible]	[illegible]	[illegible]	-	5.00	-
Japan	½	[illegible]	[illegible]	[illegible]	[illegible]	-	0.50	-
■ $ LIBOR BBA London								
Interbank Fixing	-	[illegible]	[illegible]	[illegible]	[illegible]	-	-	-
US Dollar CDs	-	5.42	5.45	5.48	5.58	-	-	-
ECU Linked Ds	-	[illegible]	[illegible]	[illegible]	[illegible]	-	-	-
SDR Linked Ds	-	[illegible]	[illegible]	[illegible]	[illegible]	-	-	-

London Interbank fixing rate (LIBOR) is the BBA London rate, fixed at 11am. Mid rates are shown for the domestic Money Rates, US$ CDs, ECU & SDR Linked Deposits (Ds).

EURO CURRENCY INTEREST RATES

May 5	Short term	7 days notice	One month	Three months	Six months	One year
Belgian Franc	4 - 3[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Danish Krone	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
German Mark	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4 - 3[illegible]
Dutch Guilder	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
French Franc	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Portuguese Esc.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Spanish Peseta	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Sterling	7[illegible] - 7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Swiss Franc	2 - 1[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Canadian Dollar	[illegible]	[illegible]	[illegible]	5 - 4[illegible]	[illegible]	[illegible]
US Dollar	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Italian Lira	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Japanese Yen	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Asian $Sing	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Short term rates are call for the US Dollar and Yen, others: two days' notice.

■ THREE MONTH PIBOR FUTURES (MATIF) Paris Interbank offered rate

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Jun	96.265	96.245	-0.015	96.265	96.245	12,411	66,708
Sep	96.105	96.065	-0.030	96.105	96.055	5,229	37,008

■ THREE MONTH EUROMARK FUTURES (LIFFE)* DM1m points of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Jun	96.265	96.245	-0.010	96.270	96.230	48934	410208
Sep	96.100	96.080	-0.015	96.115	96.060	55543	388901
Dec	95.900	95.870	-0.020	95.910	95.850	64826	398290
Mar	95.760	95.725	-0.025	95.775	95.710	43502	346677

■ ONE MONTH EUROMARK FUTURES (LIFFE)* DM3m points of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
May	-	96.370	+0.025	-	-	0	267
Jun	-	96.320	-0.005	-	-	0	0

■ THREE MONTH EUROLIRA FUTURES (LIFFE)* L1000m points of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Jun	95.340	95.350	+0.020	95.370	95.320	46298	254465
Sep	95.790	95.770	-0.010	95.810	95.750	22643	265776
Dec	95.890	95.850	-0.030	95.890	95.840	14242	186111
Mar	95.760	95.720	-0.030	95.760	95.700	20078	198503

■ THREE MONTH EURO SWISS FRANC FUTURES (LIFFE) SFr1m points of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Jun	98.400	98.330	-0.060	98.400	98.300	16631	62128
Sep	98.220	98.150	-0.060	98.220	98.100	13089	43020
Dec	97.960	97.930	-0.050	97.960	97.870	4863	26825
Mar	97.830	97.820	-0.050	97.830	97.790	1060	10867

■ THREE MONTH EUROYEN FUTURES (LIFFE) Y100m points of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Jun	-	99.33	-	-	-	0	n/a
Sep	-	99.33	-	-	-	0	n/a
Dec	-	99.29	-0.01	-	-	0	n/a

* LIFFE futures also traded on APT

■ THREE MONTH EURO FUTURES (LIFFE) Ecu1m points of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
May	-	95.750	-0.010	-	-	0	0
Jun	95.760	95.750	-0.010	95.780	95.750	136	12499
Jul	-	95.750	-0.010	-	-	0	0
Sep	95.790	95.755	-0.015	95.790	95.750	281	17234

■ EUROLIRA OPTIONS (LIFFE) L1000m points of 100%

Strike Price	CALLS Jun	CALLS Sep	CALLS Dec	PUTS Jun	PUTS Sep	PUTS Dec
95375	0.115			0.110		
95500	0.070	0.370	0.460	0.190	0.060	0.060
95625	0.040			0.285		

Est. vol. total, Calls 5246 Puts 2721. Previous day's open int., Calls 326930 Puts 291169

CROSS RATES AND DERIVATIVES

EXCHANGE CROSS RATES

May 5		BFr	DKr	FFr	DM	I£	L	Fl	NKr	Es	Pta	SKr	SFr	£	C$	$	Y	Ecu
Belgium	(BFr)	100	18.49	16.26	4.849	1.929	4784	5.463	20.13	496.4	411.6	20.86	4.058	1.649	3.938	2.735	360.4	2.459
Denmark	(DKr)	54.07	10	8.791	2.622	1.043	2587	2.954	10.89	268.4	222.6	11.28	2.194	0.892	2.129	1.479	194.9	1.330
France	(FFr)	61.51	11.37	10	2.983	1.186	2943	3.360	12.38	305.3	253.2	12.83	2.496	1.014	2.422	1.682	221.7	1.512
Germany	(DM)	20.62	3.814	3.353	1	0.398	986.5	1.127	4.152	102.4	84.88	4.301	0.837	0.340	0.812	0.564	74.31	0.507
Ireland	(I£)	51.84	9.588	8.429	2.514	1	2480	2.832	10.44	257.4	213.4	10.81	2.104	0.855	2.042	1.418	186.8	1.275
Italy	(L)	2.090	0.387	0.340	0.101	0.040	100	0.114	0.421	10.38	8.604	0.436	0.085	0.034	0.082	0.057	7.533	0.051
Netherlands	(Fl)	18.31	3.385	2.976	0.888	0.353	875.7	1	3.686	90.87	75.35	3.818	0.743	0.302	0.721	0.501	65.97	0.450
Norway	(NKr)	49.67	9.185	8.075	2.409	0.958	2376	2.719	10	246.6	204.4	10.36	2.015	0.819	1.956	1.359	179.0	1.221
Portugal	(Es)	20.14	3.725	3.275	0.977	0.389	963.7	1.100	4.056	100	82.92	4.201	0.817	0.332	0.793	0.551	72.59	0.495
Spain	(Pta)	24.29	4.493	3.950	1.178	0.469	1162	1.327	4.891	120.6	100	5.067	0.986	0.401	0.957	0.665	87.55	0.597
Sweden	(SKr)	47.95	8.868	7.796	2.325	0.925	2294	2.619	9.654	238.0	197.4	10	1.946	0.791	1.888	1.312	172.8	1.179
Switzerland	(SFr)	24.64	4.557	4.006	1.195	0.475	1179	1.346	4.962	122.3	101.4	5.139	1	0.406	0.970	0.674	88.80	0.606
UK	(£)	60.65	11.22	9.861	2.941	1.170	2902	3.313	12.21	301.1	249.7	12.65	2.461	1	2.389	1.659	218.6	1.491
Canada	(C$)	25.39	4.696	4.128	1.231	0.490	1215	1.387	5.113	126.1	104.5	5.296	1.030	0.419	1	0.695	91.51	0.624
USA	($)	36.56	6.761	5.944	1.773	0.705	1749	1.997	7.361	181.5	150.5	7.624	1.484	0.603	1.440	1	131.7	0.899
Japan	(Y)	27.75	5.132	4.512	1.346	0.535	1328	1.516	5.587	137.8	114.2	5.787	1.126	0.458	1.093	0.759	100	0.682
Ecu	-	40.67	7.521	6.612	1.972	0.784	1946	2.222	8.188	201.9	167.4	8.481	1.650	0.670	1.602	1.112	146.5	1

Danish Kroner, French Franc, Norwegian Kroner, and Swedish Kronor per 10; Belgian Franc, Yen, Escudo, Lira and Peseta per 100.

■ D-MARK FUTURES (IMM) DM 125,000 per DM

	Open	Latest	Change	High	Low	Est. vol	Open int.
Jun	0.5629	0.5665	+0.0036	0.5669	0.5618	28,598	125,508
Sep	0.5688	0.5691	+0.0035	0.5695	0.5686	95	3,777
Dec	0.5717	0.5715	+0.0033	0.5717	0.5717	3	119

■ JAPANESE YEN FUTURES (IMM) Yen 12.5m per Yen 100

	Open	Latest	Change	High	Low	Est. vol	Open int.
Jun	0.7557	0.7593	+0.0037	0.7605	0.7552	7,384	87,614
Sep	0.7696	0.7696	+0.0041	0.7696	0.7690	64	2,290
Dec	-	0.7758	-	-	-	40	232

■ SWISS FRANC FUTURES (IMM) SFr 125,000 per SFr

	Open	Latest	Change	High	Low	Est. vol	Open int.
Jun	0.6746	0.6779	+0.0032	0.6787	0.6732	8,495	58,115
Sep	0.6850	0.6850	+0.0035	0.6850	0.6848	20	1,285
Dec	-	0.6915	+0.0034	0.6915	-	10	26

■ STERLING FUTURES (IMM) £62,500 per £

	Open	Latest	Change	High	Low	Est. vol	Open int.
Jun	1.6628	1.6582	-0.0040	1.6650	1.6566	3,004	37,605
Sep	-	1.6500	-0.0060	-	1.6500	6	697
Dec	-	1.6440	-0.0064	-	1.6440	40	51

UK INTEREST RATES

LONDON MONEY RATES

May 5	Over-night	7 days notice	One month	Three months	Six months	One year
Interbank Sterling	7[illegible] - 5	7[illegible] - 7	[illegible]	[illegible]	[illegible]	[illegible]
Sterling CDs	-	-	[illegible]	[illegible]	[illegible]	[illegible]
Treasury Bills	-	-	[illegible]	[illegible]	-	-
Bank Bills	-	-	[illegible]	[illegible]	[illegible]	-
Local authority deps.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Discount Market deps	[illegible]	[illegible]	-	-	-	-

UK clearing bank base lending rate 7¼ per cent from Nov 6, 1997

	Up to 1 month	1-3 month	3-6 months	6-9 months	9-12 months
Certs of Tax dep. (£100,000)	4	6.5	6.5	6.25	6.25

Certs of Tax dep. under £100,000 is 4pc. Deposits withdrawn for cash 2pc. Ave. tender rate of discount on Apr 9, 7.0052pc. ECGD fixed rate Stlg. Export Finance. Make up day Apr 30, 1998. Agreed rate for period May 26, 1998 to Jun 23, 1998, Scheme III 8.78pc. Reference rate for period Apr 1, 1998 to Apr 30, 1998, Schemes IV & V 7.527pc. Finance House Base Rate 8pc from May 1, 1998.

■ THREE MONTH STERLING FUTURES (LIFFE) £500,000 points of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Jun	92.580	92.570	-0.020	92.580	92.560	15057	188408
Sep	92.760	92.720	-0.030	92.760	92.710	17461	118413
Dec	92.950	92.900	-0.040	92.950	92.890	22670	134957
Mar	93.180	93.110	-0.050	93.180	93.100	11687	91219
Jun	93.370	93.320	-0.050	93.370	93.300	5743	83174

Also traded on APT. All Open interest figs. are for previous day.

■ SHORT STERLING OPTIONS (LIFFE) £500,000 points of 100%

Strike Price	CALLS Jun	CALLS Sep	CALLS Dec	PUTS Jun	PUTS Sep	PUTS Dec
92625	0.030			0.085		
92750	0.010	0.095	0.270	0.190	0.125	0.120
92875	0			0.305		

Est. vol. total, Calls 800 Puts 1300. Previous day's open int., Calls 356070 Puts 257342

EMS EUROPEAN CURRENCY UNIT RATES

May 5	Ecu cen. rates	Rate against Ecu	Change on day	% +/- from cen. rate	% spread v weakest	Div. ind.
Greece	357.000	341.966	-1.065	-4.21	4.07	28
Ireland	0.796244	0.784242	-0.001207	-1.51	1.22	10
Italy	1957.61	1944.98	-3.15	-0.65	0.34	5
Spain	168.220	167.491	-0.214	-0.43	0.12	3
Portugal	202.692	201.943	-0.323	-0.37	0.06	2
Denmark	7.54257	7.51710	-0.01551	-0.34	0.03	2
France	6.63186	6.60931	-0.0106	-0.34	0.03	3
Finland	6.01125	5.99201	-0.00804	-0.32	0.01	2
Germany	1.97738	1.97097	-0.00323	-0.32	0.01	3
Netherlands	2.22799	2.22092	-0.00353	-0.32	0.01	2
Belgium	40.7844	40.6559	-0.0672	-0.32	0.00	2
Austria	13.9119	13.8687	-0.0232	-0.31	0.00	2
NON ERM MEMBERS						
UK	0.653644	0.670757	+0.007146	2.62	-2.85	-

Ecu central rates set by the European Commission. Currencies are in descending relative strength. Percentage changes are for Ecu; a positive change denotes a weak currency. Divergence shows the ratio between two spreads: the percentage difference between the actual market and Ecu central rates for a currency, and the maximum permitted percentage deviation of the currency's market rate from its Ecu central rate. 17/9/92: Sterling suspended from ERM. 16/3/98: Drachma joined ERM & Punt revalued by 3%. Other central rates adjusted. Adjustment calculated by the Financial Times.

■ PHILADELPHIA SE £/$ OPTIONS £31,250 (cents per pound)

Strike Price	CALLS May	CALLS Jun	CALLS Jul	PUTS May	PUTS Jun	PUTS Jul
1.660	1.06	1.70	2.19	0.61	1.36	2.08
1.670	0.56	1.22	1.71	1.07	1.94	2.58
1.680	0.26	0.85	1.31	1.77	2.53	3.18

Previous day's vol., Calls n/a Puts n/a. Prev. day's open int., Calls n/a Puts n/a

■ PHILADELPHIA SE D-MARK/$ OPTIONS DM62,500 ($ per DM)

Strike Price	CALLS May	CALLS Jun	CALLS Jul	PUTS May	PUTS Jun	PUTS Jul
0.555	0.79	1.12	1.37	0.11	0.35	0.51
0.560	0.48	0.83	1.06	0.27	0.53	0.71
0.565	0.23	0.55	0.80	0.52	0.78	0.96

Previous day's vol., Calls n/a Puts n/a. Prev. day's open int., Calls n/a Puts n/a

■ THREE MONTH EURODOLLAR (IMM) $1m points of 100%

	Open	Latest	Change	High	Low	Est. vol	Open int.
Jun	94.28	94.27	-0.01	94.29	94.26	20,870	454,921
Sep	94.24	94.24	-	94.24	94.21	35,977	438,853
Dec	94.14	94.14	-	94.15	94.11	28,584	355,403

■ US TREASURY BILL FUTURES (IMM) $1m per 100%

	Open	Latest	Change	High	Low	Est. vol	Open int.
Jun	-	95.01	-0.01	-	95.01	44	3,695
Sep	94.97	94.99	-0.01	94.99	94.97	19	898
Dec	-	95.03	-	-	-	1	17

All Open interest figs. are for previous day

■ EUROMARK OPTIONS (LIFFE) DM1m points of 100%

Strike Price	CALLS May	CALLS Jun	CALLS Jul	CALLS Sep	PUTS May	PUTS Jun	PUTS Jul	PUTS Sep
96125	0.125	0.130			0.005	0.010		
96250	0.020	0.045	0.015	0.030	0.025	0.050	0.185	0.200
96375	0.005	0.010			0.135	0.140		
96500	0	0.005	0.005	0.010	0.255	0.260	0.425	0.430

Est. vol. total, Calls 4026 Puts 1665. Previous day's open int., Calls 366526 Puts 432652

■ EURO SWISS FRANC OPTIONS (LIFFE) SFr 1m points of 100%

Strike Price	CALLS Jun	CALLS Sep	CALLS Dec	PUTS Jun	PUTS Sep	PUTS Dec
98500	0.040	0.060	0.070	0.210	0.410	0.640
98625	0.020			0.315		

Est. vol. total, Calls 3550 Puts 0. Previous day's open int., Calls 25868 Puts 9837

BASE LENDING RATES

	%		%		%
Adam & Company	7.25	Exeter Trust Limited	8.25	●Singer & Friedlander	7.25
Allied Irish Bank (GB)	7.25	Financial & Gen Bank	8.00	●Smith & Williamson	7.25
●Henry Ansbacher	7.25	●Robert Fleming & Co	7.25	Sun Bank	7.25
Banco Bilbao Vizcaya	7.25	●Guinness Mahon	7.25	TSB	7.25
Bank of Cyprus	7.25	Habib Bank AG Zurich	7.25	United Bank of Kuwait	7.25
Bank of Ireland	7.25	●Hambros Bank	7.25	Unity Trust Bank Plc	7.25
Bank of India	7.25	Heritable & Gen Inv Bk	7.25	Whiteaway Laidlaw	7.25
Bank of Scotland	7.25	C. Hoare & Co	7.25	Yorkshire Bank	7.25
Barclays Bank	7.25	Hongkong & Shanghai	7.25		
Brit Bk of Mid East	7.25	Investec Bank (UK) Ltd	7.25		
●Brown Shipley & Co Ltd	7.25	Julian Hodge Bank	7.25		
Citibank NA	7.25	●Leopold Joseph & Sons	7.25		
Clydesdale Bank	7.25	Lloyds Bank	7.25		
The Co-operative Bank	7.25	Midland Bank	7.25		
Coutts & Co	7.25	NatWestminster	7.25		
Cyprus Popular Bank	7.25	●Rea Brothers	7.25		
Duncan Lawrie	7.25	Royal Bk of Scotland	7.25		
		Scottish Widows Bank	7.25		

● Members of London Investment Banking Association
* In administration

COMMODITIES & AGRICULTURE

IPE calls for CO_2 emission permit trading

By Gautam Malkani

The International Petroleum Exchange in London yesterday unveiled proposals to develop trading in carbon dioxide emission permits.

The IPE submitted its response to last year's Kyoto summit on climate change, which agreed on the principle of market-based solutions to combat pollution, to the UK government and the European Commission.

It called on the government to take the lead in Europe by introducing legislation for a national market and lobbying for its extension to other EU member states as the value of permits become standardised and agreement is reached on the allocation of targets.

"There's a good chance that emissions trading is going to become very important in the years ahead, providing Kyoto works and governments are prepared to put into effect the necessary legislation," said Lynton Jones, IPE chief executive.

Under the proposals, governments would legislate and play a part in the allocation process before free markets were allowed to evolve.

Mr Jones said the market, properly monitored and enforced, would be the most cost-effective and flexible way of reducing pollution. He added that top-down regulatory approaches such as taxation would be heavy-handed. "Not all companies can effect the same sort of reduction at the same time," Mr Jones said.

Emissions trading would allow companies to emit as much pollution as they had permits for. Those that cut back on carbon dioxide with energy efficiency measures could sell or lease their surplus permits to those who could not cover the value of their emissions.

In Kyoto, the European Union agreed to reduce greenhouse gas, of which carbon dioxide accounts for 80 per cent, by 8 per cent against a baseline of 1990 levels.

The target would met by the continuous reduction of permits in circulation and the subsequent increase in the price of pollution.

Mr Jones said he expected two separate markets to evolve. First, there would be a primary market of bilateral deals between individual companies. There would also be a secondary market to provide additional flexibility to all participants, to assist in credit management and to provide greater transparency and liquidity.

The IPE is prepared to launch a carbon dioxide emissions futures contract valid for a month.

Mr Jones said the IPE's experience in developing competitive markets and in running traded energy and risk management contracts enabled it to play a significant role in monitoring and auditing the markets to ensure balance between emissions and the permits held. It would also auction unallocated permits to new market entrants.

Oil weakens as hope fades of more cuts

MARKETS REPORT

By Robert Corzine, Kenneth Gooding and Gary Mead

Oil prices weakened as speculation receded that leading oil exporters were about to launch a new round of production cuts.

The price of Brent Blend for June delivery, the bellwether futures contract on London's International Petroleum Exchange, was down 33 cents in late trading to $14.80 a barrel

Prices had been boosted last week by suggestions that big exporters such as Saudi Arabia, Venezuela and Mexico might meet to discuss an additional round of production cuts following a co-ordinated global reduction in March.

Last Friday's 64 cent rally in Brent was based on speculation that such a meeting might occur over the weekend. Traders said yesterday's price fall was triggered when it became clear no early meeting was likely.

Many oil traders and industry executives believe further action is needed to stabilise crude prices. John Browne, chief executive of British Petroleum, yesterday said there is still "too much production at the moment".

BP estimates that 1.3m barrels a day has come out of the market as a result of the co-ordinated cut, but Mr Browne said a further cut of 500,000 b/d might be needed to balance the market.

On the London Metal Exchange lead and zinc reacted in late trading to an announcement by Cominco in Canada that mechanical failure in an oxygen plant would put its Trail smelting-refining complex out of action for six days and cost the output of 2,000 tonnes of lead and 2,500 tonnes of zinc.

Traders suggested Cominco's difficulties were balanced by news from Arcon, an Irish company, that a three-month strike at its Galmoy lead-zinc mine, one of the largest in Europe, had been settled and work would start again in six days.

Lead for delivery in three months closed up $5 a tonne, or less than 1 per cent, from Friday's close, at $566, while three-month zinc was up $15 a tonne, to $1,125.

On the bullion market gold held above $300 a troy ounce in London after falling heavily in New York at the end of last week. Traders suggested options grantors were trying to push the price down ahead of the Comex options expiry on Friday.

Trading in soft commodities on the London International Financial Futures Exchange was remarkable only for the small volumes. Just 1,788 cocoa lots changed hands, with overall volume for coffee at 5,102 lots.

The July future for cocoa ended at £1,092 a tonne, unchanged from the previous close. However, there was more activity in coffee, where the July contract ended $61 higher at $1,851 a tonne, a strong recovery from the April 23 slide, when investment fund-led selling induced an 8 per cent fall.

Coffee regained its interest for investment funds partly as a result of bullish figures from the International Coffee Organisation, showing members' exports at 73.8m 60kg bags in the 12 months to March, against 81.87m bags a year earlier.

Brazilian scare-mongering about frost also contributed to the reinvigorated buying, but analysis from GNI pointed out that while frost is now technically possible, it has never been seen in Brazil before the end of May.

Indian cotton growers take crop forecasters to task

Estimates of a bumper harvest led mills to reduce inventories but a late monsoon confounded their expectations, writes **Kunal Bose**

The Indian textile industry, which is the country's biggest employer, has again been hit by a "series of errors" in the current season's cotton crop forecasts. The industry is calling for a review of the forecasting system.

The estimate of the 1997-98 crop (October to September) has been revised downwards from the one made at the beginning of the season, of 17.2m bales of 170kg of cotton, to 14.8m bales. The latest estimate is also subject to further revision.

The East India Cotton Mills Association said: "The forecast of a bumper crop in September last, coming on top of a record crop of 17.79m bales in 1996-97, led most mills to run down their inventories of cotton.

"The federal government, anticipating a collapse in cotton prices, introduced a cotton export quota of 720,000 bales early in the season. But all the calculations have proved wrong, and the country may now finally end up with a crop as low as 14.5m bales."

While the crop failure has lifted cotton prices by 17 per cent since October – the rise is even greater in the case of the highest quality extra long varieties – the mills will end the season with imports of more than 500,000 bales, compared with 30,000 bales last time.

Industry analysts say a large portion of the cotton export quota will remain unused because domestic prices are still high. Over the long term, domestic prices are almost in line with world prices.

"The Indian farmers are no longer complaining that they are selling cotton at a big discount over the world prices. But in the process, the highly export-oriented Indian textile industry has lost a major advantage," said Anil Jain, managing director of Indo-Count Industries, a cotton yarn spinning group.

"Except for the factories set up in the past decade, the productivity of the industry here does not compare well with its counterparts in south and south-east Asia. Comparatively low cotton prices supported exports."

Industry officials complain that while cotton prices are high, they cannot mark up the prices of yarn and fabrics because of the recession in the Indian economy.

"We are finding it increasingly difficult to compete with textile producing countries in Asia because their currencies have undergone major depreciations. The results of Indian textile groups in 1997-98 will be highly disappointing," said Mr Jain.

Worst hit are mills that require superior varieties of cotton.

"Setbacks in production in the three north Indian states of Punjab, Haryana and Rajasthan and in Andhra Pradesh and Karnataka in the south caused a big shortfall in the supply of good quality cotton," said the EICMA spokesman.

"The industry is importing large amounts of Giza 86 variety from Egypt and Pima cotton from the US. Medium-long staple cotton is being imported from Russia and Australia."

Industry officials are surprised the crop forecasting agencies failed to predict the impact of the late arrival of the monsoon in 1997 and unseasonal rain in November and December, and even later rains in some areas. As a result, some crops have suffered from disease. Maharashtra, the country's second largest cotton growing state, suffered the most. The crop there is smaller than 1.5m bales, compared with last season's 3.1m bales.

Indian farmers tend to switch land to a crop fetching high prices.

"In view of the rise in cotton prices in the current season, we expect some addition to the 9m hectares now under the crop. But the size of the crop next time will in the end be decided by the rain," said Mr Jain.

Industry officials recommend that the Cotton Advisory Board, which represents the interests of growers, trade and industry, should make a study of the cotton crop monitoring system in the US, Australia and Israel, and to introduce more reliable forecasting practices.

Mills will import more than 500,000 bales this year, up from 30,000 bales last time Tony Andrews

COMMODITIES PRICES

BASE METALS

LONDON METAL EXCHANGE

(Prices from Amalgamated Metal Trading)

■ ALUMINIUM, 99.7 PURITY ($ per tonne)

	Cash	3 mths
Close	1411.5-12.5	1439-40
Previous	1413.5-14.5	1440-41
High/low		1444/1436
AM Official	1413.5-14.0	1440.5-41.0
Kerb close		1442-43
Open int.	254,007	
Total daily turnover	52,992	

■ ALUMINIUM ALLOY ($ per tonne)

	Cash	3 mths
Close	1288-93	1312-14
Previous	1293-98	1315-20
High/low		1315/1313
AM Official	1290-91	1313-15
Kerb close		1314-15
Open int.	6,769	
Total daily turnover	1,763	

■ LEAD ($ per tonne)

	Cash	3 mths
Close	550-1	565.5-6
Previous	542.5-43.5	557.5-58.5
High/low		567/562
AM Official	549-49.5	564-65
Kerb close		566-7
Open int.	35,841	
Total daily turnover	5,989	

■ NICKEL ($ per tonne)

	Cash	3 mths
Close	5440-50	5535-40
Previous	5540-50	5630-40
High/low		5600/5525
AM Official	5455-60	5555-60
Kerb close		5550-60
Open int.	50,296	
Total daily turnover	12,687	

■ TIN ($ per tonne)

	Cash	3 mths
Close	5630-40	5745-55
Previous	5845-55	5750-60
High/low		5755/5730
AM Official	5810-20	5730-35
Kerb close		5750-55
Open int.	17,519	
Total daily turnover	4,907	

■ ZINC, special high grade ($ per tonne)

	Cash	3 mths
Close	1101-02	1127-28
Previous	1084-85	1109.5-10.5
High/low		1128/1109
AM Official	1095-96	1121-22
Kerb close		1125-26
Open int.	80,356	
Total daily turnover	20,439	

■ COPPER, grade A ($ per tonne)

	Cash	3 mths
Close	1859-60	1870-71
Previous	1846-47	1858-59
High/low		1876/1863
AM Official	1852.5-53.0	1866-67
Kerb close		1871-72
Open int.	168,630	
Total daily turnover	54,576	

■ LME AM Official £/$ rate: 1.6616

LME Closing £/$ rate: 1.6575

Spot 1.6601 3 mths 1.6532 6 mths 1.6480 9 mths 1.6448

■ HIGH GRADE COPPER (COMEX)

	Sett price	Day's change	High	Low	Vol	Open int
May	83.70	-0.90	84.70	83.60	899	2,818
Jun	84.15	-0.80	85.00	84.15	148	3,546
Jul	84.50	-0.70	85.50	84.50	2,135	30,678
Aug	83.90	-0.60	-	-	20	1,771
Sep	83.80	-0.70	84.80	84.00	41	6,541
Oct	83.40	-0.70	-	-	2	1,490
Total					3,274	87,572

PRECIOUS METALS

■ LONDON BULLION MARKET

(Prices supplied by N M Rothschild)

Gold(Troy oz)	$ price	£ equiv	SFr equiv
Close	303.00-303.50		
Opening	304.10-304.50		
Morning fix	304.20	182.74	451.28
Afternoon fix	303.80	182.94	449.78
Day's High	304.60-305.00		
Day's Low	303.20-303.60		
Previous close	305.70-306.20		

Loco Ldn Mean Gold Lending Rates (Vs US$)

1 month	4.49	6 months	4.01
2 months	4.37	12 months	3.77
3 months	4.24		

Silver Fix	p/troy oz.	US cts equiv.
Spot	375.00	623.50
3 months	376.60	623.50
6 months	378.00	623.50
1 year	378.10	620.35

Gold Coins	$ price	£ equiv.
Krugerrand	304-307	183-185
Maple Leaf	-	-
New Sovereign	70-73	42-44

Precious Metals continued

■ GOLD COMEX (100 Troy oz.; $/troy oz.)

	Sett price	Day's change	High	Low	Vol	Open int
May	303.5	-0.8			1	1
Jun	304.6	-0.8	306.4	303.7	23,502	87,549
Aug	306.8	-0.8	308.2	305.9	798	10,532
Oct	308.8	-0.8	310.1	308.5	508	5,250
Dec	310.8	-0.8	312.2	310.0	116	17,691
Feb	312.5	-0.8	-	-	5	8,996
Total					24,945	173,986

■ PLATINUM NYMEX (50 Troy oz.; $/troy oz.)

	Sett price	Day's change	High	Low	Vol	Open int
Jul	398.0	+3.0	399.0	395.2	1,247	12,425
Oct	395.0	+2.5	395.8	395.0	77	754
Jan	391.0	+2.5	-	-	4	46
Apr	388.5	+2.5	-	-	1	11
Total					1,324	13,237

■ PALLADIUM NYMEX (100 Troy oz.; $/troy oz.)

	Sett price	Day's change	High	Low	Vol	Open int
Jun	307.00	+6.50	312.00	300.50	309	3,275
Sep	266.50	+6.00	266.50	264.50	41	1,412
Dec	256.50	+6.00	-	-	-	291
Total					350	4,978

■ SILVER COMEX (5,000 Troy oz.; Cents/troy oz.)

	Sett price	Day's change	High	Low	Vol	Open int
May	606.7	-14.5	629.0	604.0	956	1,879
Jul	610.8	-13.9	633.0	608.0	8,971	43,874
Sep	611.8	-13.9	633.0	610.0	158	6,692
Dec	611.7	-14.0	632.0	610.5	222	12,353
Jan	611.6	-14.0	-	-	-	15
Mar	610.8	-14.0	-	-	-	2,610
Total					10,313	75,345

ENERGY

■ CRUDE OIL NYMEX (1,000 barrels, $/barrel)

	Latest price	Day's change	High	Low	Vol	Open int
Jun	15.46	-0.49	15.92	15.40	48,746	118.0k
Jul	16.26	-0.35	16.56	16.21	20,648	62,840
Aug	16.69	-0.31	16.93	16.65	7,629	39,527
Sep	17.02	-0.23	17.15	16.96	2,719	28,777
Oct	17.18	-0.25	17.29	17.18	690	19,735
Nov	17.32	-0.27	17.59	17.32	135	11,295
Total					86,487	489,166

■ CRUDE OIL IPE ($/barrel)

	Latest price	Day's change	High	Low	Vol	Open int
Jun	14.80	-0.33	14.90	14.70	17,820	67,179
Jul	15.08	-0.29	15.19	14.98	8,487	61,539
Aug	15.34	-0.33	15.44	15.29	3,098	27,514
Sep	15.63	-0.24	15.66	15.51	673	14,309
Oct	15.85	-0.23	15.88	15.83	189	10,408
Nov	16.00	-0.24	16.00	15.94	898	11,413
Total					n/a	n/a

■ HEATING OIL NYMEX (42,000 US galls., c/US galls.)

	Latest price	Day's change	High	Low	Vol	Open int
Jun	44.55	-0.87	45.40	44.50	7,794	48,541
Jul	45.35	-0.89	46.10	45.30	2,157	20,415
Aug	46.30	-0.84	46.55	46.30	829	13,664
Sep	47.45	-0.59	47.70	47.35	492	12,380
Oct	48.35	-0.59	48.75	48.40	269	9,056
Nov	49.40	-0.44	49.85	49.40	299	8,662
Total					12,342	164,313

■ GAS OIL IPE ($/tonne)

	Sett price	Day's change	High	Low	Vol	Open int
May	135.25	-3.50	138.25	135.25	8,160	25,450
Jun	137.25	-3.50	140.00	137.25	5,358	24,057
Jul	139.50	-3.00	141.75	139.50	1,126	11,268
Aug	142.25	-2.50	144.00	142.25	418	9,912
Sep	145.00	-2.25	146.50	145.25	221	10,448
Oct	147.50	-2.50	148.50	147.75	109	13,566
Total					14,915	133,762

■ NATURAL GAS IPE (1,000 therms; pence per therm)

	Sett price	Day's change	High	Low	Vol	Open int
Jun	9.180	-0.100	9.180	9.180	15	2,190
Jul	9.130	-0.010	9.130	9.130	25	1,275
Total					680	21,079

■ NATURAL GAS NYMEX (10,000 mmBtu.; $/mmBtu.)

	Latest price	Day's change	High	Low	Vol	Open int
Jun	2.250	-0.007	2.270	2.210	35,814	35,810
Jul	2.290	-0.016	2.306	2.260	9,962	23,800
Aug	2.340	-0.010	2.355	2.310	6,043	20,900
Sep	2.356	-0.015	2.373	2.330	2,853	15,528
Oct	2.395	-0.010	2.420	2.365	2,520	15,240
Nov	2.535	-0.007	2.550	2.515	1,794	10,538
Total					66,826	236,294

■ UNLEADED GASOLINE

NYMEX (42,000 US galls.; c/US galls.)

	Latest price	Day's change	High	Low	Vol	Open int
Jun	53.22	-0.82	53.95	53.00	19,527	52,503
Jul	54.15	-0.85	54.76	54.00	9,002	21,063
Aug	54.35	-0.75	54.80	54.30	2,373	15,087
Sep	53.90	-0.70	54.40	53.90	965	13,769
Oct	53.00	-0.45	-	-	150	4,523
Nov	52.50	-0.30	-	-	25	635
Total					32,607	111,782

GRAINS AND OIL SEEDS

■ WHEAT LIFFE (100 tonnes; £ per tonne)

	Sett price	Day's change	High	Low	Vol	Open int
May	76.60	+0.10	-	-	-	272
Jul	79.10	+0.10	79.10	79.00	34	1,970
Sep	76.30	+1.30	-	-	-	155
Nov	78.30	+1.30	78.25	78.00	143	3,250
Jan	80.30	+1.30	80.25	80.25	44	616
Total					221	6,884

■ WHEAT CBT (5,000bu min; cents/60lb bushel)

	Sett price	Day's change	High	Low	Vol	Open int
May	298.00	+5.25	298.50	294.00	4,554	2,782
Jul	309.00	+5.50	309.50	302.50	14,686	74,211
Sep	318.75	+5.50	319.00	314.00	1,029	14,976
Dec	331.50	+5.00	332.50	326.00	1,178	22,417
Mar	342.00	+4.25	342.50	339.00	172	3,529
Jul	350.00	+3.50	-	-	35	201
Total					21,637	118,382

■ MAIZE CBT (5,000 bu min; cents/56lb bushel)

	Sett price	Day's change	High	Low	Vol	Open int
May	247.75	+3.75	248.00	243.00	10,370	10,199
Jul	256.50	+3.50	256.75	251.50	30,283	153,134
Sep	264.00	+3.50	264.25	259.50	1,468	36,605
Dec	269.75	+3.75	270.00	264.25	18,633	121,034
Mar	277.50	+4.00	277.75	272.00	659	10,759
May	282.00	+3.00	282.00	278.50	48	1,453
Total					62,205	341,059

■ BARLEY LIFFE (100 tonnes; £ per tonne)

	Sett price	Day's change	High	Low	Vol	Open int
May	78.00	-2.50	-	-	-	72
Sep	73.50	+0.50	-	-	-	10
Nov	75.50	+0.50	-	-	-	760
Jan	77.50	+0.50	-	-	-	104
Mar	79.50	+0.50	-	-	-	1
Total					0	947

■ SOYABEANS CBT (5,000bu min; cents/60lb bushel)

	Sett price	Day's change	High	Low	Vol	Open int
May	652.50	+5.25	653.00	645.50	5,902	8,055
Jul	648.25	+5.75	648.75	641.00	29,570	73,061
Aug	646.00	+6.25	646.50	640.00	1,384	14,095
Sep	632.00	+5.00	632.00	626.00	432	3,781
Nov	626.00	+6.75	626.50	618.00	9,615	44,660
Jan	633.00	+5.50	633.00	627.00	280	2,459
Total					47,433	149,924

■ SOYABEAN OIL CBT (60,000lbs; cents/lb)

	Sett price	Day's change	High	Low	Vol	Open int
May	28.63	+0.01	28.92	28.50	3,962	6,653
Jul	28.97	+0.08	29.28	28.81	14,138	95,765
Aug	29.08	+0.10	29.35	28.91	2,180	19,274
Sep	29.01	+0.10	29.30	28.95	221	11,635
Oct	28.89	+0.19	29.10	28.75	823	7,621
Dec	28.72	+0.23	28.93	28.51	3,363	25,508
Total					25,085	169,885

■ SOYABEAN MEAL CBT (100 tons; $/ton)

	Sett price	Day's change	High	Low	Vol	Open int
May	156.4	+2.5	156.5	153.0	5,850	5,245
Jul	160.3	+2.4	160.5	156.7	15,738	83,364
Aug	161.7	+2.4	161.7	158.0	2,122	18,896
Sep	163.0	+2.7	163.0	159.0	397	12,911
Oct	163.0	+2.7	163.0	159.0	844	8,628
Dec	165.2	+2.6	165.5	161.0	3,962	21,301
Total					28,484	134,457

■ POTATOES LIFFE (20 tonnes; £ per tonne)

	Sett price	Day's change	High	Low	Vol	Open int
May	130.0	+20.0	130.0	102.0	32	51
Jun	136.0	+20.0	-	-	-	-
Nov	75.0	-3.0	-	-	-	3
Mar	100.0	-	-	-	-	-
Apr	150.5	-8.0	155.0	150.5	190	1,031
Total					222	1,082

■ FREIGHT (BIFFEX) LIFFE ($10/index point)

	Sett price	Day's change	High	Low	Vol	Open int
May	985	+27	985	958	14	362
Jun	935	+5	935	935	8	51
Jul	920	+5	920	920	21	335
Oct	1045	+2	1040	1040	10	175
Jan	1075	-	-	-	-	58
Total					53	991

	Close	Prev
BFI	998	1001

PULP AND PAPER

■ PULPEX OMLX (US$, 24 air dry tons)

	Sett price	Day's change	High	Low	Vol	Open int
Jun	534.75	-0.25	-	-	-	549
Sep	555.50	-2.00	556.25	555.50	12	334
Total					13	852

FUTURES DATA

All futures data supplied by CMS.

Tea from the Tea Brokers' Association

Landed: Selective demand. Bright liquoring Burundis sold well but prices were generally lower, apart from a few selected lines which held firm. Medium East Africans were up to 15 pence easier where sold while Central Africans were neglected. Offshore: A few coloury Kenyans sold at easier rates but the majority of offerings were neglected. Price indications (previous sale in brackets): best available 150p (186p), good 140p (160p), good medium 115p (140p), medium 100p (120p), low medium 75p (84p).

The London Tea Auction is now fortnightly. The next report will appear on May 13.

SOFTS

■ COCOA LIFFE (10 tonnes; £/tonne)

	Sett price	Day's change	High	Low	Vol	Open int
May	1073	+2	1075	1075	24	1,620
Jul	1093	+1	1098	1086	979	29,279
Sep	1114	+2	1119	1107	433	22,874
Dec	1133	+1	1135	1127	103	32,049
Mar	1153	+2	1146	1146	71	39,373
May	1167	+2	1161	1161	3	13,126
Total					1,788	150,949

■ COCOA CSCE (10 tonnes; $/tonnes)

	Sett price	Day's change	High	Low	Vol	Open int
May	1699	+13	1680	1675	8	696
Jul	1693	+13	1696	1671	1,373	25,124
Sep	1713	+15	1714	1680	182	12,230
Dec	1738	+14	1738	1715	40	15,033
Mar	1766	+14	1748	1748	-	9,827
May	1784	+14	1767	1765	-	3,767
Total					1,603	73,224

■ COCOA (ICCO) (SDR's/tonne)

May 4	Price	Prev. day
Daily	-	1315.56

■ COFFEE LIFFE (5 tonnes; $/tonne)

	Sett price	Day's change	High	Low	Vol	Open int
May	1940	+60	1940	1880	645	6,129
Jul	1850	+60	1851	1780	3,595	23,147
Sep	1800	+52	1800	1742	720	6,041
Nov	1765	+50	1762	1710	129	2,348
Jan	1730	+50	-	-	-	158
Mar	1695	+50	1670	1644	13	357
Total					5,102	38,204

■ COFFEE 'C' CSCE (37,500lbs; cents/lbs)

	Sett price	Day's change	High	Low	Vol	Open int
May	134.00	+5.10	135.00	129.15	524	1,360
Jul	132.55	+4.70	133.50	128.10	5,435	17,289
Sep	130.20	+4.65	131.00	126.00	1,628	7,332
Dec	126.35	+4.20	127.00	122.50	949	6,271
Mar	123.35	+3.85	124.00	120.25	185	2,041
May	121.60	+3.10	122.50	119.00	27	809
Total					8,758	35,631

■ COFFEE (ICO) (US cents/pound)

May 4		Prev. day
Comp. daily	112.82	112.22
15 day average	118.40	119.18

■ WHITE SUGAR LIFFE (50 tonnes; $/tonne)

	Sett price	Day's change	High	Low	Vol	Open int
Aug	248.0	+0.2	249.0	247.5	5,226	19,650
Oct	250.0	-0.5	251.1	249.7	984	11,263
Dec	255.7	+0.4	255.5	255.0	379	1,463
Mar	262.0	+0.5	262.0	261.5	52	1,588
May	266.3	+0.8	266.0	265.9	12	512
Aug	270.2	+0.9	271.5	271.5	2	108
Total					6,657	34,687

■ SUGAR '11' CSCE (112,000lbs; cents/lbs)

	Sett price	Day's change	High	Low	Vol	Open int
Jul	8.53	+0.04	8.63	8.42	5,434	88,392
Oct	8.77	-	8.85	8.71	648	50,782
Mar	9.27	+0.01	9.33	9.22	355	24,413
May	9.33	+0.01	9.33	9.29	5	3,520
Jul	9.35	-	9.36	9.33	10	3,516
Oct	9.39	+0.05	9.42	8.39	9	3,177
Total					6,466	174,509

■ COTTON NYCE (50,000lbs; cents/lbs)

	Sett price	Day's change	High	Low	Vol	Open int
May	63.38	+0.88	63.55	62.05	14	26
Jul	64.72	+0.35	65.00	64.00	2,559	31,871
Oct	67.45	+0.20	67.80	67.00	104	3,845
Dec	68.87	+0.12	69.22	68.40	1,250	32,523
Mar	70.40	+0.20	70.50	70.10	15	7,177
May	71.11	+0.18	71.30	71.00	3	2,977
Total					3,945	83,302

■ ORANGE JUICE NYCE (15,000lbs; cents/lbs)

	Sett price	Day's change	High	Low	Vol	Open int
May	111.70	+8.45	112.20	107.75	367	2,343
Jul	115.35	+7.70	116.05	110.20	2,494	17,933
Sep	115.75	+5.00	115.75	115.75	328	5,429
Nov	118.30	+5.00	118.30	118.30	167	3,675
Jan	120.10	+5.00	120.10	120.10	10	1,571
Mar	122.45	+5.00	122.45	122.45	24	919
Total					3,368	32,467

VOLUME DATA

Open Interest and Volume data shown for contracts traded on COMEX, NYMEX, CBT, NYCE, CME, CSCE and IPE Crude Oil are one day in arrears. Volume & Open interest totals are for all traded months.

INDICES

■ Reuters (Base: 18/9/31 = 100)

May 5	May 1	month ago	year ago
1621.0	1630.7	1657.6	1988.7

■ CRB Futures (Base: 1967 = 100)

May 4	May 1	month ago	year ago
225.76	223.97	-	-

■ GSCI Spot (Base: 1970 = 100)

May 4	May 1	month ago	year ago
n/a	166.52	165.43	196.79

LME WAREHOUSE STOCKS (tonnes)

Aluminium	-125	to	614,800
Aluminium alloy	-20	to	50,100
Copper	-1,325	to	280,875
Lead	-	to	107,250
Nickel	+228	to	64,560
Zinc	-875	to	456,625
Tin	-85	to	6,325

MEAT AND LIVESTOCK

■ LIVE CATTLE CME (40,000lbs; cents/lbs)

	Sett Price	Day's change	High	Low	Vol	Open int
Jun	68.800	-0.525	69.550	68.700	7,479	42,520
Aug	69.425	-0.525	70.000	69.300	2,712	23,751
Oct	69.450	-0.225	69.800	69.300	886	13,530
Dec	70.225	-0.225	70.525	70.200	279	4,849
Feb	71.300	-0.125	71.500	71.300	13	1,499
Apr	72.200	-0.150	72.500	72.175	37	612
Total					11,406	86,762

■ LEAN HOGS CME (40,000lbs; cents/lbs)

	Sett Price	Day's change	High	Low	Vol	Open int
Jun	61.250	-0.225	61.575	60.850	3,972	14,107
Jul	61.100	-0.350	61.525	60.750	1,949	6,669
Aug	58.750	-0.400	59.250	58.400	1,323	4,346
Oct	54.200	-0.250	54.450	53.950	232	3,583
Dec	54.625	-0.200	55.150	54.500	109	3,287
Feb	57.700	-0.250	57.900	57.325	42	637
Total					7,636	32,981

■ PORK BELLIES CME (40,000lbs; cents/lbs)

	Sett Price	Day's change	High	Low	Vol	Open int
May	59.775	-0.375	59.975	58.400	706	1,517
Jul	57.675	-0.375	58.200	56.500	1,818	4,407
Aug	55.100	+0.050	55.950	54.150	181	1,029
Sep	48.100	-0.400	48.650	48.100	3	28
Nov	45.500	-0.700	46.250	45.300	52	226
Total					2,767	7,207

LONDON TRADED OPTIONS

Strike price $ tonne — Calls — — Puts —

	Calls		Puts	
■ ALUMINIUM (99.7%) LME	Jun	Sep	Jun	Sep
1450	16	57	39	52
1500	5	36	76	80
1550	1	22	122	115
■ COPPER (Grade A) LME	Jun	Sep	Jun	Sep
1700	175	181	5	34
1800	85	118	24	70
1900	40	72	69	121
■ COFFEE LIFFE	Jul	Sep	Jul	Sep
1850	71	120	71	170
1900	53	109	103	209
1950	39	102	139	252
■ COCOA LIFFE	Jul	Sep	Jul	Sep
1075	43	71	25	32
1100	31	57	38	43
1125	25	44	57	55
■ BRENT CRUDE IPE	Jun	Jul	Jun	Jul
1450	52	-	-	-
1500	22	-	-	-
1550	-	-	-	-

LONDON SPOT MARKETS

■ CRUDE OIL FOB (per barrel)

		+or-
Dubai	$13.07-3.09x	-0.25
Brent Blend (dated)	$14.12-4.18	-0.58
Brent Blend (Jun)	$14.70-4.76	-0.33
W.T.I.	$15.38-5.40x	-0.24

■ OIL PRODUCTS NWE prompt delivery CIF (tonne)

		+or-
Premium Gasoline	$166-168	-2
Gas Oil	$136-138	-3
Heavy Fuel Oil	$71-73	
Naphtha	$139-141	+5
Jet fuel	$150-152	-3.5
Diesel	$141-143	-3.5

■ NATURAL GAS (Pence/therm)

		+or-
Bacton (Jun)	9.15-9.25	-0.07

Petroleum Argus. Tel. London (0171) 359 8792

■ OTHER

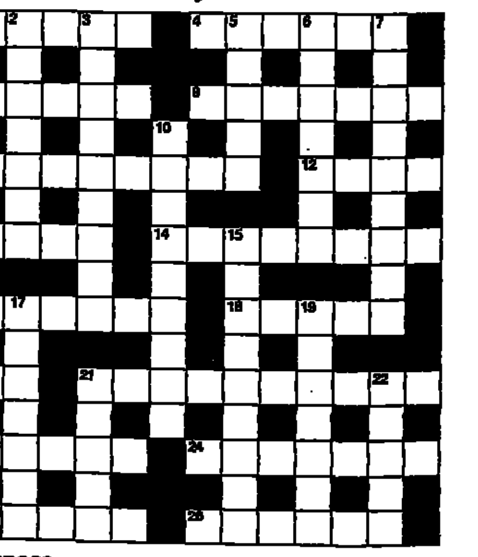
		+or-
Gold (per troy oz)♣	$303.25	-2.70
Silver (per troy oz)♣	623.50c	+6.50
Platinum (per troy oz.)	$399.00	+2.00
Palladium (per troy oz.)	$358.00	-5.00
Copper	89.0c	
Lead (US prod.)	45.00c	
Tin (Kuala Lumpur)	21.29r	
Tin (New York)	278.5	
Cattle (live weight)	85.70p	-0.03*
Sheep (live weight)	121.52p	+10.00*
Pigs (live weight)†	68.48p	+0.51*
Lon. day sugar (raw)	$215.70	+0.50
Lon. day sugar (wte)	$252.50	+0.30
Barley (Eng. feed)	Unq	
Maize (US No3 Yellow)	£109.00	
Wheat (US Dark North)	Unq	
Rubber (May)♥	46.75p	
Rubber (Jun)♥	47.75p	
Rubber (KL RSS No1)	297.50m	-3.00
Coconut Oil (Phil)§	710.0y	+15.0
Palm Oil (Malay.)§	675.0	-7.5
Copra (Phil)§	$410.0y	+10.0
Soyabeans (US)	177.0	+2.0
Cotton Outlook'A' index	63.45	-0.25
Wooltops (64s Super)	334p	

£ per tonne unless otherwise stated. p pence/kg. c cents/lb. r ringgit/kg. m Malaysian cents/kg. y Jun/Jul. x Jun. ♥London Physical. § CIF Rotterdam. ♣ Bullion market close. * Change on week. †Based on n/a head of pigs sold.

JOTTER PAD

CROSSWORD

No.9,674 Set by DARCY



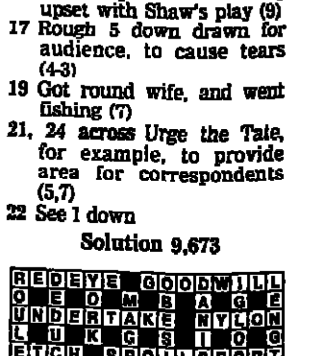
ACROSS

1 Carefully selecting house, outwardly snug (6)
4 Does a turn demonstrating 60's dances (6)
8, 5 down Maybe naive, rejected non-alcoholic drink (7,5)
9, 18 Be re-elected, possessing great stamina (7,5)
11 I try to sneak my deliveries past strikers – not on at first (3-7)
12 Gaze with love, ignoring all outsiders? It's the sea (4)
13, 23 Trimester studying some classics, maybe in part of Paris (5,7)
14 Some boards scheme with ruling body (8)
16 Such secretion is mostly unintelligible (8)
18 See 9
20 It's a nuisance to make sure things are tied up (4)
21 One's capitalised on being given nomination (6,4)
23 See 13 down
24 See 21 down
25 Reveal former attitude (6)
26 Indigestible material could be ghosted – that's not hard (6)

DOWN

1, 10, 22 To unravel poisoner's crime, fetch fully qualified detective (5,9,5)
2 Disturbed by part of chapter in part of the Bible (7)
3 I can provide reams on Queen Victoria, maybe in advance (9)
5 See 8 across
6 Take over the Jumbo in today's Times? (7)
7 Late drink reading tabloid? A distressing experience (9)
10 See 1 down
13 Girl with unfinished duties suffering fatigue (9)
15 One's quoted as being upset with Shaw's play (9)
17 Rough 5 down drawn for audience, to cause tears (4-3)
19 Got round wife, and went fishing (7)
21, 24 across Urge the Tate, for example, to provide area for correspondents (5,7)
22 See 1 down

Solution 9,673



FT MANAGED FUNDS SERVICE

● FT Cityline Unit Trust Prices are available over the telephone. Call the FT Cityline Help Desk on (+44 171) 873 4378 for more details.

OFFSHORE AND OVERSEAS

BERMUDA (FSA RECOGNISED)

Fidelity Currency Funds Ltd
Pembroke Hall, Pembroke, Bermuda

Jupiter Asset Management (Bermuda) Ltd

Newport Investment Management

BERMUDA (REGULATED)(**)

GUERNSEY (FSA RECOGNISED)

Royal Bk of Canada O/S Fd Mgrs Ltd
PO Box 246, St Peter Port, Guernsey 01481 723021

Sarasin Funds Mngmt (Guernsey) Ltd
PO Box 348, St Peter Port, Guernsey 01481 723021

Schroder Investment Mngmt (Guernsey) Ltd
PO Box 256, St Peter Port, Guernsey 01481 710651

GUERNSEY (REGULATED)(**)

IRELAND (FSA RECOGNISED)

AIB Fund Management Ltd

IRELAND (REGULATED)(**)

ISLE OF MAN (FSA RECOGNISED)

ISLE OF MAN (REGULATED)(**)

JERSEY (FSA RECOGNISED)

JERSEY (REGULATED)(**)

LUXEMBOURG (FSA RECOGNISED)

Offshore Funds and Insurances

FT MANAGED FUNDS SERVICE

● FT Cityline Unit Trust Prices are available over the telephone. Call the FT Cityline Help Desk on (+44 171) 873 4378 for more details.

Aberdeen Fund Mngrs (Luxembourg) Ltd (u)

4 Boulevard Royal L-2449 Luxembourg 00 352 227601

American Phoenix Investment Portfolios (u)

13 rue Goethe, L-1637 Luxembourg 00 352 404646211

Bank Von Ernst & Cie AG

Fleming Group - Contd.

Foreign & Colonial Emerging Markets Ltd (u)

Exchange Hs, Primrose St, Ldn, EC2A 2NY 0171-628 1234

Foreign & Colonial Portfolios Fd Sicav(u)

47 Boulevard Royal, L-2449 Lux 00 352 4640101

Frankfurter I (u)

Mercury Asset Management - Contd.

Morgan Stanley Sicav

ACM Offshore Funds - Contd.

Credit Suisse Asset Mgmt Funds - Contd.

Merrill Lynch Asset Management - Contd.

Swiss Bank Corporation - Contd.

Equitable Life (International)

LUXEMBOURG (REGULATED)(**)

ACM Offshore Funds

OFFSHORE INSURANCES

Aberdeen International Ltd

[illegible]

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● FT Cityline Unit Trust Prices are available over the telephone. Call the FT Cityline Help Desk on (+44 171) 873 4378 for more details.

[illegible]

OTHER OFFSHORE FUNDS

[illegible]

LONDON SHARE SERVICE

ALCOHOLIC BEVERAGES

	Notes	Price	+ or -	52 week high	52 week low	Volume '000s	Yld Gr's	P/E
Allied Domecq	★†W	622	-7	648	407½	1,665	4.0	15.0
Bulmer (HP)	★‡	534	—	582½	[illegible]	7	5.5	10.4
Burn Stewart	★‡	21½	—	79½	21½	68	8.9	-
Diageo	★W	733	+3½	784	432	3,957	2.5	32.0
Glenmorangie A	†	798	—	995	765	2	2.1	18.9
B	†	812½	—	1090	880	-	0.9	43.7
Highland	★†	314xd	+1¼	347	258	37	3.6	14.5
5¼pc Cv Sb Bd		96¼	—	99½	85½	-	5.9	-
Kirin Y	5	529¼	+7¼	654¼	416¼	-	1.0	-
Matthew Clark	★‡	[illegible]	—	277½	157	136	12.4	6.5
Merrydown	★	45	—	108½	39½	-	8.6	-
Seagram C$		[illegible]	[illegible]	[illegible]	[illegible]	-	[illegible]	-

BANKS, RETAIL

BREWERIES, PUBS & REST

BUILDING MATS. & MERCHANTS

CHEMICALS

CONSTRUCTION

CONSTRUCTION - Continued

DISTRIBUTORS

DIVERSIFIED INDUSTRIALS

ELECTRICITY

ELECTRONIC & ELECTRICAL EQPT

ENGINEERING

ENGINEERING - Continued

ENGINEERING, VEHICLES

ENGINEERING, VEHICLES - Continued

EXTRACTIVE INDUSTRIES

EXTRACTIVE INDUSTRIES - Continued

FOOD PRODUCERS

GAS DISTRIBUTION

HEALTH CARE

HOUSEHOLD GOODS & TEXT

INSURANCE

INSURANCE - Continued

INVESTMENT TRUSTS

INVESTMENT TRUSTS - Continued

INV TRUSTS SPLIT CAPITAL

LONDON SHARE SERVICE

INV TRUSTS SPLIT CAPITAL - Continued

[illegible]

OTHER INVESTMENT TRUSTS

[illegible]

INVESTMENT COMPANIES

[illegible]

LEISURE & HOTELS

[illegible]

LIFE ASSURANCE

[illegible]

MEDIA

[illegible]

MEDIA - Continued

[illegible]

OIL, EXPLORATION & PRODUCTION

[illegible]

OIL, INTEGRATED

[illegible]

OTHER FINANCIAL

[illegible]

PAPER, PACKAGING & PRINTING

[illegible]

PHARMACEUTICALS

[illegible]

PHARMACEUTICALS - Continued

[illegible]

PROPERTY

[illegible]

PROPERTY - Continued

[illegible]

RETAILERS, FOOD

[illegible]

RETAILERS, GENERAL

[illegible]

RETAILERS, GENERAL - Continued

[illegible]

SUPPORT SERVICES

[illegible]

SUPPORT SERVICES - Continued

[illegible]

TELECOMMUNICATIONS

[illegible]

TOBACCO

[illegible]

TRANSPORT

[illegible]

TRANSPORT - Continued

[illegible]

WATER

[illegible]

AIM

[illegible]

AIM - Continued

[illegible]

AMERICANS

[illegible]

CANADIANS

[illegible]

SOUTH AFRICANS

[illegible]

TRADED INDEX SECURITIES

[illegible]

GUIDE TO LONDON SHARE SERVICE

[illegible]

♣ FT Free Annual Reports Club

[illegible]

FT Company Focus / Focus Plus

[illegible]

FT Cityline

[illegible]

Footsie loses gains to slip back below 6,000

MARKET REPORT

By Steve Thompson, UK Stock Market Editor

The FTSE 100 lost its grip on the 6,000 level yesterday, burdened by a poor opening performance by Wall Street and switching prompted by a significant decline in sterling.

After the frantic weekend activity surrounding the leadership of the new European Central Bank and the establishment of the new European single currency – the euro – the pound fell away against most leading currencies amid growing expectations of interest rate rises across Europe.

Fears of such moves were triggered by the Danish authorities, who increased their rates, bringing an instant response from other European currencies, most notably the D-Mark, against which sterling dipped around 2 pfgs.

The turbulence surrounding the leaders never came near to disturbing the seemingly relentless advances by the market's second-line stocks and small caps. The FTSE indices representing both areas of the market extended their recent upsurges to fresh peaks.

Hampered by another burst of persistent selling across the financial sectors of the market, the FTSE 100 ended an erratic session 23.8 lower at 5,986.5, halting a sequence of four straight winning performances by the London market's benchmark index.

There were no such uncertainties surrounding the FTSE 250 and SmallCap. The former raced up again to hit a new intra-day record of 5,682.4 before finishing the day 29.3 ahead at a closing high of 5,682.3. The FTSE SmallCap closed 8.4 firmer at a peak 2,665.3.

Weakness in the front-line stocks was in sharp contrast to the opening performance of the market, which saw the FTSE 100 kick off in great shape and advance to a session high of 6,064.6, up 54.3, during the first flush of excitement prompted by the "euro effect".

Sentiment was additionally enhanced by Wall Street's excellent showings on Friday evening and Monday, when the Dow Jones Industrial Average pushed ahead to a record close.

But the bullish sentiment was quickly eroded, the Footsie slipping within an hour of the opening and never regaining its early poise.

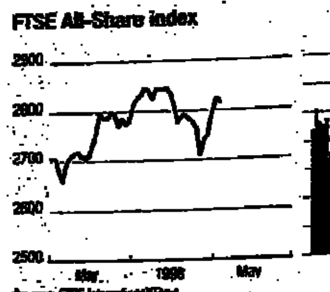
Downside damage to the market was once again focused on the banking sector, where the big mortgage lenders were hit by significant selling linked to the perceived fierce competition in the sector. Alliance & Leicester and the Halifax were prominent among the worst performers in the Footsie.

The strategy team at Credit Suisse First Boston said in their latest strategy report: "While last week's benign US economic numbers helped to pull markets out of a sharp dive, it seems too early to conclude that global turbulence has passed. Uncertainty about interest rates within Europe still remains a live issue."

The strategy team at Goldman Sachs said it had revised earnings forecasts for the UK to reflect slowing activity. The US investment bank cut its earnings growth forecast to 6 per cent, from 8 per cent, against a consensus figure of 9 per cent.

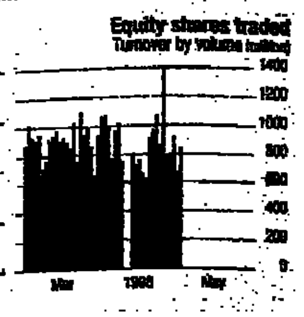
Turnover in equities at 6pm was 837.2m.

FTSE All-Share index



Source: FTSE International/Tops

Equity shares traded
Turnover by volume (million)



Indices and ratios

FTSE 100	5986.5	−23.8	FT 30	3874.9	+2.1
FTSE 250	5682.3	+29.3	FTSE Non-Fins p/e	23.16	22.32
FTSE 350	2888.7	−6.5	FTSE 100 Fut Jun	6025.0	−60.0
FTSE All-Share	2817.36	−5.41	10 yr Gilt yield	5.87	5.80
FTSE All-Share yield	2.80	2.83	Long gilt/equity yld ratio	2.11	2.16

Best performing sectors

1. Engineering: Vehicles .... +2.0
2. Paper Pckg .... +1.4
3. Oil Exploration .... +1.2
4. Leisure & Hotels .... +1.1
5. Pharmaceuticals .... +1.1

Worst performing sectors

1. Banks: Retail .... −1.3
2. Oil: Integrated .... −1.1
3. Other Financial .... −1.0
4. Retailers: Food .... −1.0
5. Resources .... −0.8

A&L off ahead of meeting

COMPANIES REPORT

By Peter John and Martin Brice

Banking stocks were heavily sold and, as one of the biggest groups of the Footsie, were responsible for leading the market lower.

The main thrust of the weakness came from the mortgage lenders ahead of the annual meeting from Alliance & Leicester, which was scheduled for 7pm last night to accommodate small shareholders.

The shares fell 57½ to 832½p, a slide of 6.5 per cent and the biggest percentage drop among the 350 biggest stocks in London. However, one broker said the sharpness of the fall reflected a big late rise on Friday, possibly because of an errant trade.

The meeting, to be held just outside Leicester, follows reports over the past fortnight from Abbey National and Halifax, which both spoke of tough conditions in the market. Halifax shed 18 to 782p and Woolwich was off 13½ to 334½p.

HSBC was hit by big falls in far eastern markets that have been affected by civil unrest. The stock, which is also a very big constituent of the Hang Seng index, fell 73 to £18.25. Elsewhere, Royal Bank of Scotland lost 14 to 961p in front of tomorrow's interims.

PowerGen was the best Footsie performer for much of yesterday following weekend press reports of a potential merger with Houston Industries of the US.

Shares in the UK's second-largest generator traded up 33 at best, but ended a net 18 higher at 825p, while rival National Power was steady at 582p. Shares in Houston and PowerGen rose in New York trade on Monday.

Analysts said there was evident synergy in terms of both companies' international businesses. They pointed out that Houston has projects in Latin America where PowerGen has nothing and PowerGen has projects in parts of the Pacific where Houston has nothing. However, there were doubts about the benefits to the core businesses.

Neither PowerGen nor Houston were prepared to comment, but the story built on speculation last week that suggested PacifiCorp of the US might be keen to link up with PowerGen after failing to secure Energy Group. Energy eased 1¼ to 837p.

The information technology sub-sector continued its relentless rise, with attention on such shares focused by the launch by Merrill Lynch of a monthly newsletter for clients. In the sub-sector, Logica was notable for a gain of 55 to £16.60.

Keith Woolcock at the broker told clients: "The 46 per cent rise in London's IT index since its creation in January has split investor opinions: they are either terrified or electrified."

He said that although the forward price/earnings ratio for the index stands at about 40, investors should be overweight IT shares. He also said the high rating enjoyed by such shares could lead to London becoming a magnet for flotations.

One of the prime movers behind the surge in IT stocks has been spending by the financial services industry, one of the largest areas of the UK economy.

"We would argue that UK IT shares deserve a higher rating relative to their home market than comparable stocks in America or on mainland Europe," said Mr Woolcock.

However, he said Microsoft was exerting pressure on Psion, and its shares had further to fall. Psion, which has fallen 40 per cent since February, rose 13½ to 286p.

Shares linked to the strength of sterling were the focus of attention as the pound weakened against both the D-Mark and the dollar. Their good performance powered the FTSE 250 as it outperformed the Footsie index.

Foremost among the gainers was British Steel, the most-heavily geared play on sterling, which rose 5½ to 167½p. However, the best Footsie performer was Blue Circle, which recovered from recent underperformance as it rose 15 to 380p.

LucasVarity up

LucasVarity was partly helped by comment from Merrill Lynch, which increased its 12-month price objective for the shares from 270p to 310p.

Adam Collins at the broker said the bid by Dana of the US for American car parts maker Echlin was at 11 times earnings while LucasVarity stock stood at just 7.2 times earnings.

He said LucasVarity's first-quarter sales had been strong, while an analyst visit to its award-winning US brakes operations in June could produce positive newsflow. The shares gained 6¼ to 282½p.

In the FTSE 250, Glynwed International rose 17 to 321p, while TI Group gained 14 to 550p.

EMI failed to benefit from a wealth of weekend press stories about possible bidders for the music publisher. With the absence of any news yesterday the stock drifted lower.

Some traders suggested a bid would be made first thing this morning and would come in at around 800p a share. But the shares' slide of 12 to 588p did not suggest imminent activity.

Most Sunday newspapers ran reports on EMI, which on Friday confirmed it had been approached by a potential suitor, widely supposed to be Seagram.

One said Carlton Communications was considering an offer although it would have problems mounting a bid with a market value of £3.1bn compared to the £6bn EMI is expected to fetch. Another said EMI was considering a £1bn disposal of its music publishing business to fend of a would-be hostile bidder.

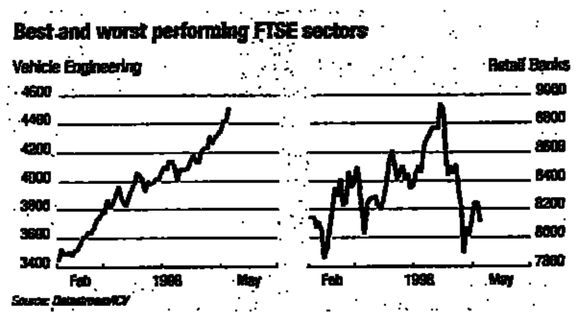
However, most agreed that Seagram of the US was the most likely contender even if it might not yet be offering enough to satisfy EMI shareholders. Carlton closed 2 off at 518p.

Newcomer JWE Telecom, which distributes and repairs telephone handsets and was placed at 103p, opened at 117p and rose to 125p.

Top-of-the-range first-quarter profits from BP failed to help the shares, which languished 13½ lower at 936. SG Securities has shaded its full-year profit forecast to just below £2.3bn which is £500m below last year's reported figure.

The shares were not helped by the underlying oil price, which was down about 30 cents in London trading. Shell Transport, which reports tomorrow and which is less exposed to oil prices, was firmer, slipping only 2¾ to 452¾p on very heavy turnover of 29m shares.

Best and worst performing FTSE sectors



Source: Datastream/ICV

FT 30 INDEX

	May 5	May 1	Apr 30	Apr 29	Apr 28	Yr ago	*High	*Low
FT 30	3874.9	3872.8	3823.2	3752.7	3738.1	2932.9	3874.9	3864.2
Ord. div. yield	2.82	2.83	2.86	2.91	2.93	3.75	4.22	2.83
P/E ratio net	25.15	25.08	24.78	24.34	24.21	17.68	25.08	15.80
P/E ratio nil	24.93	24.85	24.58	24.12	23.99	17.50	24.85	15.71

FT 30 since compilation: high 3874.9 05/05/98; low 49.4 26/06/40. Base Date: 1/7/35

FT 30 hourly changes

Open	9	10	11	12	13	14	15	16	High	Low
3872.9	3911.9	3882.0	3873.6	3873.9	3870.0	3871.7	3870.6	3870.4	3914.3	3864.2

 *For 1998.

STOCK MARKET TRADING DATA

	May 5	May 1	Apr 30	Apr 29	Apr 28	Yr ago
SEAQ bargains	63,152	61,517	67,925	56,191	63,778	53,681
Equity turnover (£m)†	-	na	na	2535.7	2890.2	2553.3
Equity bargains†	-	na	na	49,477	50,214	56,127
Shares traded (m)†	-	na	na	694.1	820.4	721.8
Total market bargains‡	-	na	70,036	54,717	61,306	na
Total turnover (£m)‡	-	na	4771.4	3482.2	3779.8	na
Total shrs traded (m)‡	*837.2	na	1080.9	906.1	1008.3	na
Tradepoint turnover (£m)	86.5	31.6	33.4	17.4	22.0	1.1
Tradepoint shrs traded	15,218	8,018	7,260	5,385	5,915	445

†Excluding intra-market and overseas turnover but including Crest turnover. *UK only total at 6pm. ‡ UK plus intra-market turnover

■ London market data

Rises and falls*		52 Week highs and lows		LIFFE Equity options	
Total Rises	1,011	Total Highs	215	Total contracts	23,940
Total Falls	518	Total Lows	32	Calls	12,353
Same	1,463			Puts	11,587

May 5 *Data based on Equity shares listed on the London Share Service.

FUTURES AND OPTIONS

■ FTSE 100 INDEX FUTURES (LIFFE) £10 per full index point

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Jun	6095.0	6016.0	-46.0	6105.0	6003.0	20016	158004
Sep	-	6091.5	-46.0	-	-	0	10231
Dec	-	6176.0	-46.0	-	-	0	125

■ FTSE 250 INDEX FUTURES (LIFFE) £10 per full index point

Jun	5710.0	5710.0	+27.0	5710.0	5710.0	180	6393

■ FTSE 100 INDEX OPTION (LIFFE) (*5974) £10 per full index point

[illegible]															

Calls 2,196 Puts 2,208

■ EURO STYLE FTSE 100 INDEX OPTION (LIFFE) £10 per full index point

[illegible]															

Calls 1,718 Puts 3,308 * Underlying index value. Premiums shown are based on settlement prices. † Long dated expiry months.

LONDON RECENT ISSUES: EQUITIES

Issue price p	Amt paid up	Mkt cap (£m)	1998 High	Low	Stock	Close price p	+/-	Net div.	Div. cov.	Grs yld	P/E net
[illegible]											
-	F.P.	159.0	333½	328	LLP	329½		14.7	2.5	1.8	26.9
100	F.P.	30.0	97½	97½	Murray VCT 3	97½		-	-	-	-
-	F.P.	46.8	250	153	Oakley's	234½	-½	12.5	6.2	1.3	15.2
-	F.P.	113.7	329½	276½	Oxford Glyco	308½		-	-	-	-
*	F.P.	18.0	92½	90	Quester VCT 2	90		12.4	-	3.3	-
-	F.P.	-	36½	34½	Transport Dev B	36	+½	-	-	-	-

† Alternative Investment Market. § Placing price. * Introduction. For a full explanation of all other symbols please refer to The London Share Service notes.

FTSE GOLD MINES INDEX

	May 4	% chg on day	May 1	Year ago	Gross div yield %	P/E ratio	52 week High	52 week Low
Gold Mines Index (32)	1261.59	-1.3	1278.21	1493.26	1.92	-	1618.93	891.23
■ Regional Indices								
Africa (14)	1344.23	-4.3	1404.35	1724.86	4.03	29.74	1864.25	921.78
Australasia (7)	1499.20	-1.4	1520.12	1792.51	2.22	20.75	1823.74	933.63
North America (11)	1215.22	0.0	1215.41	1394.39	1.01	45.44	1574.16	864.86

 Figures in brackets show number of companies. Basis US Dollars. Base Value: 1000.00 31/12/92. † Partial. Latest prices were unavailable for this edition.

FTSE Actuaries Share Indices — The UK Series

Produced in conjunction with the Faculty and Institute of Actuaries

	May 5	Day's chge%	May 1	Apr 30	Year ago	Gross yield%	Net yield%	Net cover	P/E ratio	Xd adj. ytd	Total Return
FTSE 100	5986.5	-0.4	6010.3	5928.3	4519.3	2.78	2.34	2.03	22.14	61.80	2612.25
FTSE 250	5682.3	+0.5	5653.0	5610.8	4520.2	2.87	2.42	2.06	21.08	52.48	2429.65
FTSE 250 ex IT	5734.6	+0.5	5704.0	5663.4	4544.2	2.95	2.49	2.13	19.92	54.60	2461.36
FTSE 350	2888.7	-0.2	2895.2	2859.1	2203.3	2.79	2.36	2.04	21.93	28.22	2575.38
FTSE 350 ex IT	2893.4	-0.2	2900.2	2863.9	-	2.81	2.37	2.05	21.69	28.53	1323.14
FTSE 350 Higher Yield	2852.8	-0.3	2860.2	2823.0	2131.1	3.70	3.16	1.95	17.27	35.78	2171.17
FTSE 350 Lower Yield	2940.2	-0.2	2946.0	2910.5	2282.0	2.10	1.75	2.15	27.62	23.82	2132.17
FTSE SmallCap	2665.32	+0.3	2656.93	2645.87	2301.16	2.86	2.31	1.58	27.69	21.64	2311.93
FTSE SmallCap ex IT	2660.92	+0.3	2653.25	2643.05	2302.07	3.06	2.47	1.64	24.96	22.55	2331.26
FTSE All-Share	2817.36	-0.2	2822.77	2788.99	2167.26	2.80	2.35	2.01	22.22	28.13	2548.98
FTSE All-Share ex IT	2824.43	-0.2	2830.25	2796.11	-	2.82	2.38	2.03	21.85	28.55	1314.70

■ FTSE Actuaries Industry Sectors

	May 5	Day's chge%	May 1	Apr 30	Year ago	Gross yield%	Net yield%	Net cover	P/E ratio	Xd adj. ytd	Total Return
10 RESOURCES(21)	4903.58	-0.8	4943.77	4873.84	4196.32	3.09	2.67	1.72	23.54	61.16	2249.85
12 Extractive Industries(5)	3393.55	—	3394.46	3362.98	4197.82	4.02	3.70	2.07	15.02	76.82	1071.07
15 Oil, Integrated(4)	5473.00	-1.1	5533.42	5445.67	4339.27	3.08	2.63	1.64	24.71	62.01	2581.36
16 Oil Exploration & Prod(12)	3234.53	+1.2	3196.46	3183.63	3495.79	1.77	1.46	1.98	35.77	31.12	2008.99
20 GEN INDUSTRIALS(220)	2337.92	+0.7	2321.45	2300.63	1966.52	3.38	2.94	2.06	18.00	25.96	1571.00
21 Construction(38)	1647.39	-0.2	1650.00	1643.06	1387.96	2.95	2.40	2.62	16.15	17.87	1468.00
22 Building Matls & Merchs(27)	1949.26	+0.9	1931.45	1903.95	1900.64	3.83	3.26	2.03	16.09	29.45	1061.27
[illegible]											

■ Hourly movements

	Open	9.00	10.00	11.00	12.00	13.00	14.00	15.00	16.10	High/day	Low/day
FTSE 100	[illegible]										
FTSE 250	[illegible]										
FTSE 350	[illegible]										
FTSE SmallCap	[illegible]										
FTSE All-Share	[illegible]										

FTSE INTERNATIONAL

TRADING VOLUME

■ Major Stocks yesterday.

	Vol 000's	Closing price	Day's change
3i	211	969	-4
AMVESCAP	316	680	-23
ASDA Group	7,200	195½	-4
[illegible]			

Highs & Lows shown on a 52 week basis

WORLD STOCK MARKETS

EUROPE

AUSTRIA (May 5 / Sch)

BELGIUM/LUXEMBOURG (May 5 / Frs.)

CZECH REP (May 5 / Koruna)

DENMARK (May 5 / Kr)

FINLAND (May 5 / Mkk)

FRANCE (May 5 / Frs.)

GERMANY (May 5 / Dm.)

GREECE (May 5 / Drachma)

ITALY (May 5 / Lira)

NETHERLANDS (May 5 / Fls.)

NORWAY (May 5 / Kroner)

POLAND (May 5 / Zloty)

PORTUGAL (May 5 / Escudo)

SPAIN (May 5 / Pts.)

SWEDEN (May 5 / Kronor)

SWITZERLAND (May 5 / Frs.)

TURKEY (May 5 / Tk Lira)

PACIFIC

JAPAN (May 1 / Yen)

AUSTRALIA (May 5 / Aust$)

HONG KONG (May 5 / H.K.$)

INDONESIA (May 5 / Rupiah)

MALAYSIA (May 5 / MYR)

NEW ZEALAND (May 5 / NZ $)

SINGAPORE (May 5 / S$)

SOUTH KOREA (May 4 / Won)

TAIWAN (May 5 / TW $)

THAILAND (May 4 / Baht)

AMERICAS

CANADA

TORONTO (May 5 / Can $)
4 pm close

MONTREAL (May 5 / Can $)
4 pm close

MEXICO (May 4 / Peso)
4 pm close

AFRICA

SOUTH AFRICA (May 5 / Rand)

FT/S&P ACTUARIES WORLD INDICES

The FT/S&P Actuaries World Indices are owned by FTSE International Limited, Goldman, Sachs & Co. and Standard & Poor's. The indices are compiled by FTSE International and Standard & Poor's in conjunction with the Faculty of Actuaries and the Institute of Actuaries. NatWest Securities Ltd. was a co-founder of the indices.

NATIONAL AND REGIONAL MARKETS Figures in parentheses show number of lines of stock	MONDAY MAY 4 1998 US Dollar Index	Day's Change %	Pound Sterling Index	Yen Index	DM Index	Local Currency Index	Local % chg on day	Gross Div. Yield	FRIDAY MAY 1 1998 US Dollar Index	Pound Sterling Index	Yen Index	DM Index	Local Currency Index	DOLLAR INDEX 52 week High	52 week Low	Year ago (approx)
Australia (73)	211.08	-1.0	187.86	177.71	195.49	217.97	0.3	3.57	213.29	189.79	179.38	197.30	217.39	243.87	190.26	228.73
Austria (23)	237.14	0.9	211.05	199.85	219.83	219.50	1.1	1.50	234.97	209.08	197.81	217.35	217.22	237.14	181.40	181.40
Belgium (26)	335.86	1.4	298.74	282.60	310.88	304.29	1.6	2.38	330.91	294.46	278.30	306.10	299.63	335.66	234.33	243.65
Brazil (26)	252.91	-1.9	225.09	212.93	234.24	532.61	-1.2	1.85	256.15	227.93	215.43	236.94	539.19	322.44	184.94	248.58
Canada (130)	247.05	0.3	219.88	208.00	228.81	298.64	0.5	1.56	246.37	219.23	207.20	227.90	255.34	248.78	196.63	196.64
Denmark (34)	513.73	1.5	457.22	432.52	475.81	474.93	1.7	1.27	506.15	450.38	425.68	468.20	467.18	521.81	360.86	360.86
Finland (28)	446.97	2.5	397.80	376.31	413.98	507.46	2.7	1.77	435.93	387.91	366.63	403.25	493.94	446.97	260.29	260.29
France (79)	315.12	2.2	280.46	265.31	291.86	295.27	2.4	1.99	308.45	274.47	259.42	285.33	288.35	315.12	213.42	218.87
Germany (59)	287.10	3.6	255.51	241.71	265.90	265.90	3.7	1.24	277.19	246.66	233.13	256.41	256.41	290.93	201.32	201.32
Greece (37)	292.58	-0.8	260.39	246.32	270.98	649.25	-0.9	1.43	294.85	262.37	247.98	272.75	655.26	294.85	290.70	–
Hong Kong, China (66)	316.17	-0.9	281.39	266.19	292.83	314.52	-0.9	5.02	319.05	283.90	268.32	295.13	317.39	580.03	282.93	468.55
Indonesia (27)	48.58	-1.5	43.24	40.90	45.00	241.42	-0.6	2.93	49.33	43.89	41.48	45.63	242.83	254.90	27.87	223.75
Ireland (16)	553.65	-0.3	492.74	466.12	512.78	553.02	0.0	1.78	555.37	494.19	467.08	513.74	553.02	560.44	333.65	334.10
Italy (54)	166.51	4.4	148.19	140.18	154.21	218.67	4.5	1.21	159.55	141.97	134.18	147.59	209.26	177.15	88.93	88.20
Japan (480)	95.32	-0.1	84.83	80.25	88.28	80.25	0.0	0.99	95.42	84.91	80.25	88.26	80.25	141.12	88.52	118.86
Malaysia (107)	188.27	0.5	167.58	158.51	174.37	265.75	0.4	2.80	187.33	166.70	157.56	173.29	264.60	545.67	113.56	538.72
Mexico (28)	1682.31	-0.8	1497.24	1416.35	1558.12	15589.42	-1.0	1.48	1695.45	1508.68	1425.81	1568.34	15748.23	1901.98	1350.38	1350.38
Netherlands (19)	521.95	0.9	464.54	439.44	483.42	478.22	1.1	1.98	517.42	460.43	435.17	478.63	473.14	521.95	352.82	352.82
New Zealand (14)	71.87	-1.1	63.79	60.34	66.38	68.78	-0.9	4.75	72.47	64.48	60.95	67.03	69.42	96.47	71.49	86.00
Norway (39)	353.92	1.5	314.45	297.46	327.23	354.67	1.5	1.77	349.13	309.78	292.79	322.03	349.47	374.54	281.82	295.38
Philippines (22)	96.22	3.4	85.64	81.01	89.12	189.17	1.3	1.10	93.08	82.83	78.28	86.10	186.71	173.10	57.54	156.84
Portugal (18)	299.39	2.1	266.45	252.06	277.28	374.18	2.2	1.01	293.28	260.97	246.66	271.29	366.01	298.39	290.70	–
Singapore (42)	209.53	-1.3	186.48	176.40	194.06	152.64	-1.5	1.96	212.29	188.91	178.54	196.38	154.91	401.75	144.01	369.51
South Africa (43)	338.23	-0.4	301.03	284.76	313.26	374.33	-0.1	2.38	339.54	302.14	285.56	314.09	374.85	385.52	227.66	362.32
Spain (31)	390.02	2.1	347.12	328.36	361.23	447.48	2.3	1.71	382.04	339.96	321.31	353.40	437.29	396.69	229.64	229.64
Sweden (49)	598.30	2.1	530.70	502.09	552.28	678.83	2.1	1.72	584.12	519.77	491.26	540.33	664.66	670.82	421.39	421.39
Switzerland (30)	406.80	3.2	362.05	342.48	376.77	375.70	3.1	1.07	394.22	350.79	331.55	364.67	364.55	406.80	271.81	271.81
Thailand (39)	25.87	-1.7	23.12	21.87	24.06	38.88	-1.5	8.03	26.41	23.50	22.21	24.43	38.46	75.68	13.10	75.64
United Kingdom (208)	393.05	0.0	349.81	330.91	364.03	349.81	0.0	2.80	393.11	349.81	330.62	363.64	349.81	401.84	286.05	286.05
USA (635)	458.63	0.1	408.18	386.12	424.77	458.63	0.1	1.40	458.10	407.63	385.27	423.75	458.10	462.18	329.19	329.19
Americas (810)	415.62	0.1	369.90	349.91	384.94	351.08	0.1	1.41	415.20	369.46	349.19	384.07	350.69	418.95	301.09	301.09
Europe (748)	361.78	1.7	321.98	304.59	335.07	340.13	1.8	1.98	355.87	316.67	299.29	329.19	334.29	363.50	248.71	248.71
Nordic (149)	528.19	2.0	470.09	444.89	489.20	529.06	2.1	1.67	517.70	460.67	435.40	478.89	518.10	533.60	368.95	368.95
Pacific Basin (879)	105.31	-0.3	93.72	88.66	97.53	89.13	-0.1	1.67	105.59	93.96	88.80	97.67	89.20	158.99	95.32	137.57
Euro-Pacific (1618)	212.21	1.1	188.87	178.66	196.55	183.69	1.2	1.69	209.91	186.79	176.54	194.17	181.49	216.04	172.03	183.91
North America (755)	445.17	0.1	396.20	374.79	412.31	445.06	0.1	1.41	444.62	395.65	373.94	411.29	444.47	448.61	321.07	321.07
Europe Ex. UK (540)	334.81	2.5	297.80	281.71	309.91	325.07	2.6	1.56	326.35	290.40	274.47	301.88	316.67	334.61	223.12	223.12
Pacific Ex. Japan (390)	195.36	-0.8	173.87	164.47	180.94	195.84	-0.3	3.95	196.94	175.25	165.63	182.18	196.50	318.98	161.31	296.12
World Ex. US (1836)	216.43	1.0	192.62	182.21	200.45	191.42	1.1	1.87	214.30	190.70	180.23	198.24	189.32	220.18	175.30	187.57
World Ex. UK (2263)	285.16	0.5	253.79	240.08	264.11	280.43	0.7	1.49	283.44	252.21	238.38	262.19	258.69	287.02	227.60	227.60
World Ex. Japan (1991)	393.18	0.6	349.82	331.02	364.15	385.56	0.7	1.70	390.77	347.79	328.65	361.48	393.08	394.38	280.77	280.77
The World Index (2471)	294.29	0.5	261.92	247.77	272.57	268.51	0.6	1.63	292.71	260.46	246.17	270.76	265.91	296.57	232.60	232.60

Emerging markets: IFC Investable indices

4 pm close May 5

NEW YORK STOCK EXCHANGE PRICES

1998 High	Low	Stock	Div	Yld. %	P/E	Vol 100s	High	Low	Close Quote	Chng Prev. Close
- A -										
[illegible]										
- B -										
[illegible]										
- C -										
[illegible]										
- D -										
[illegible]										
- E -										
[illegible]										
- F -										
[illegible]										
- G -										
[illegible]										
- H -										
[illegible]										
- I -										
[illegible]										
- J -										
[illegible]										
- K -										
[illegible]										
- L -										
[illegible]										
- M -										
[illegible]										
- N -										
[illegible]										
- O -										
[illegible]										
- P - Q -										
[illegible]										
- R -										
[illegible]										
- S -										
[illegible]										
- T -										
[illegible]										
- U -										
[illegible]										
- V -										
[illegible]										
- W -										
[illegible]										
- X - Y - Z -										
[illegible]										

Price data supplied by Extel, part of FT Information

Yearly highs and lows for NYSE reflect the period from Jan 1 1998. Unless otherwise noted, rates of dividend are annual disbursements based on the latest declaration. Volume figures are unofficial.

d-new yearly low. P/E price-earnings ratio. vol- volume. u-new yearly high. x-ex-dividend or ex-rights. yld-yield. z-sales in full.
‡ Dealings suspended.

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GLOBAL EQUITY MARKETS

US INDICES

Dow Jones	May 4	May 1	Apr 30	1998 High	1998 Low	Since compilation High	Since compilation Low
Industrials	9192.66	9147.07	9063.37	9192.66 (4/5)	7580.42 (9/1)	9192.66 (4/5/98)	41.22 (8/7/32)
Home Bonds	104.72	104.96	104.84	105.48 (15/1)	104.52 (29/4)	105.48 (15/1/98)	54.99 (1/10/81)
Transport	3501.19	3485.42	3509.17	3686.02 (16/4)	3194.36 (9/1)	3686.02 (16/4/98)	13.23 (8/7/32)
Utilities	284.13	283.56	284.47	291.18 (2/4)	262.66 (9/1)	291.18 (2/4/98)	16.53 (8/7/32)

DJ Ind. Day's high 9311.98 (9211.84) Low 9134.86 (9015.54) (Theoretical¶)
Day's high 9261.81 (9147.82) Low 9145.33 (9066.61) (Actual¶)

Standard and Poors	May 4	May 1	Apr 30	1998 High	1998 Low	Since compilation High	Since compilation Low
Composite‡	1122.07	1121.00	1111.75	1130.54 (22/4)	927.69 (9/1)	1130.54 (22/4/98)	4.40 (1/6/32)
Industrials♥	1308.36	1304.65	1295.16	1311.46 (22/4)	1077.40 (9/1)	1311.46 (22/4/98)	3.52 (30/6/32)
Financial♥	136.83	136.99	134.91	140.83 (14/4)	110.65 (9/1)	140.83 (14/4/98)	7.13 (4/9/74)
Others							
NYSE Comp.	582.73	581.91	577.37	595.62 (22/4)	487.47 (9/1)	595.62 (22/4/98)	4.64 (25/4/42)
Amex Comp	748.80	748.66	748.52	763.67 (22/4)	645.41 (12/1)	763.67 (22/4/98)	324.20 (16/7/86)
NASDAQ Cmp	1878.86	1873.44	1868.41	1917.61 (22/4)	1503.22 (9/1)	1917.61 (22/4/98)	54.87 (3/10/74)
Russell 2000	485.46	484.94	482.89	491.41 (21/4)	410.89 (12/1)	491.41 (21/4/98)	123.36 (7/12/93)

RATIOS

	May 1	Apr 24	Apr 17	Year ago
Dow Jones Ind. Div. Yield	1.54	1.55	1.53	1.73
	Apr 29	Apr 22	Apr 15	Year ago
S & P Ind. Div. yield	1.35	1.29	1.31	1.75
S & P Ind. P/E ratio	30.29	31.13	30.89	22.89

US DATA

MARKET ACTIVITY

Volume (million)	May 4	May 1	Apr 30
NYSE	551.708	575.180	865.512
Amex	25.606	27.233	33.190
NASDAQ	777.725	776.855	949.160

NYSE	May 4	May 1	Apr 30
Issues Traded	3,488	3,462	3,492
Rises	1,552	1,831	2,343
Falls	1,438	1,102	726
Unchanged	498	529	423
New Highs	150	108	120
New Lows	21	17	25

NYSE TRADING ACTIVITY Volume : 551,700,000

ACTIVE STOCKS Monday	Stocks traded	Close price	Day's change
Compaq	16,442,300	30⅛	+⅝
UnionTexas	9,803,300	28⅛	+8⅛
PhMorr	7,388,800	39¾	+1½
Cendnt	5,885,100	25⅛	+⅝
BayNetwks	5,141,000	24¼	+⅛
AT&T	4,944,200	62⅛	+1⅛
AmOnLine	3,919,500	88¾	+5⅝
Pfizer	3,584,600	112¾	-⅛
BrMySq	3,521,800	109⅛	+3¾
LucentTch	3,228,000	72¾	-2⅛

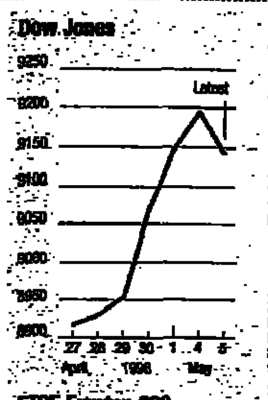
BIGGEST MOVERS Monday	Close price	Day's change	Day's chge %
Ups			
UnionTexas	28⅛	+8⅛	+39.2
Vencor	12⅞	+1⅜	+12.3
Ecolin	51¾	+4⅛	+8.8
StandPacLt	17¾	+1¼	+7.5
Downs			
Mirage Res	20	-1¾	-8.0
Albino	48	-2¾	-6.4
ClairBrands	13½	-¾	-5.3
Dana	58¾	-3⅛	-5.2

NASDAQ TRADING ACTIVITY Volume 777,725,000

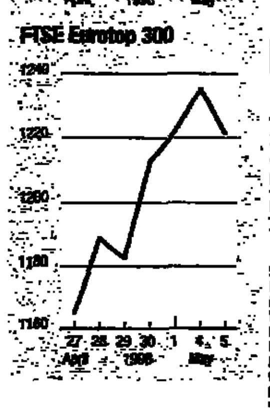
ACTIVE STOCKS Monday	Stocks traded	Close price	Day's change
DellComp	16,129,500	88	+3¾
WrldCm	9,918,800	43¾	+⅝
Micsft	9,357,709	88⅛	-1⅛
Intel	9,109,500	82	-¾
CiscoSys	7,880,200	74⅝	+1⅞
Netscp	6,891,800	29⅛	+1⅜
Oracle	6,558,800	28⅛	+¾
SunMicro	5,489,400	34¾	-1½
AppMat	5,157,000	35⅝	-⅛
ApplesC	5,019,800	29⅛	+1⅛

BIGGEST MOVERS Monday	Close price	Day's change	Day's chge %
Ups			
Check Pnt	32¾	+4⅛	+15.2
MMC Netwk	27½	+2¾	+11.3
Celgene	10¾	+1	+10.1
Odetics A	10⅞	+1	+10.1
Downs			
MicrodeA	14⅞	-1⅝	-10.1
ExcelSw	18¾	-2	-9.4
ObjSys	10¾	-1	-8.8
IntegrDev	11⅛	-1⅛	-8.8

Dow Jones



FTSE Eurotop 300



JAPAN

	May 5	May 4	May 1	1998 High	1998 Low	Since compilation High	Since compilation Low
Nikkei 225	closed	closed	15601.10	17264.34	14664.44	38915.9	85.25

Day's high: – . Day's low: – .

TOKYO TRADING ACTIVITY Volume : 308,000,000

ACTIVE STOCKS Friday	Stocks traded	Close price	Day's change
Np Steel Cp	12,687,000	214	+1
Hazama Cp	7,915,000	74	-1
Fujita Cp	5,850,000	98	
Nissan Mtr	6,018,000	414	-13
Mitsui Hvy	4,613,000	482	-8
Fujitsu	4,331,000	1555	+10
Sakura BK	3,917,000	440	-15
Stomo Mtl Ind	3,615,000	221	+2
Fuji Hvy Ind	3,481,000	594	+1
Toshiba Cp	3,281,000	613	-1

BIGGEST MOVERS Friday	Close price	Day's change	Day's chge %
Ups			
Kinsho Mata	184	+28	+18
Oskura Elct	308	+43	+16.2
Cleanup Cp	558	+56	+11.2
Tokyo Tour	200	+18	+9.9
Downs			
Yokogi Cp	245	-36	-12.8
Cable Co	160	-20	-11.1
Sidoye Key	141	-17	-10.8
Nakano	243	-27	-10

FRANCE

	May 5	May 4	May 1	1998 High	1998 Low	Since compilation High	Since compilation Low
CAC 40	3944.91	3974.25	closed	3988.75	2882.54	3988.75	984.61

Day's high: 3963.53. Day's low: 3931.51.

PARIS TRADING ACTIVITY Volume : 386,705,620

ACTIVE STOCKS Tuesday	Stocks traded	Close price	Day's change
Usinor	4,567,884	84.3	+1.5
Rh-Poulenc A	1,210,424	308	-2
Alcatel Alst	902,667	1175	+20
BNP	889,102	525	+6
Ass Gn De Fr	802,075	386.3	-3.8
Fr.Telecom	709,042	334.1	-10
C.Fin Paris A	702,359	639	-14
Axa-UAP	689,928	734	+3
Elf Aquitne	563,770	788	-20
Total B	488,396	724	-11

BIGGEST MOVERS Tuesday	Close price	Day's change	Day's chge %
Ups			
Dassault	140	+19.5	+16.2
Waeles	121	+16	+15.2
Sextant Avion.	300	+34	+12.8
Siparex	165.4	+15.4	+10.3
Downs			
Finacor	38.15	-6.5	-15.2
Ile-de-Fr Ph	1210	-80	-5.9
BNMP	122.2	-7.8	-6
FFP Fonc	440	-24.9	-5.4

GERMANY

	May 5	May 4	May 1	1998 High	1998 Low	Since compilation High	Since compilation Low
DAX	5232.03	5314.66	closed	5442.00	4087.28	5442	931.18

Day's high: 5282.50. Day's low: 5221.71.

FRANKFURT TRADING ACTIVITY Volume : 13,425,127

ACTIVE STOCKS Tuesday	Stocks traded	Close price	Day's change
Siemens	578,885	107	-0.7
Deut.Tlkm	477,504	45.8	-0.85
Hoechst	448,903	72.3	-1.1
Deut.Bank	447,276	144	-1.2
Bayer	426,835	76.9	-2.15
Dresdner Bank	376,584	100	-3.5
BASF	372,278	79.2	-1.85
Commzbank	361,448	69.3	-1.1
Lufthansa (M)	351,112	42.4	-0.8
RWE	279,319	92.3	-1

BIGGEST MOVERS Tuesday	Close price	Day's change	Day's chge %
Ups			
Mris Klinikon	33.3	+3.3	+11
Phoenix	38.2	+2.5	+6.9
Einhell NV Pf	27	+1.5	+5.9
Bien-Haus	580	+25	+4.5
Downs			
WMF Wrtt NV	280	-25	-8.8
Abtron	675	-55	-7.5
Hilbrgr Zem	158	-10	-6
Loesch	49.5	-3	-5.7

UK

	May 5	May 4	May 1	1998 High	1998 Low	Since compilation High	Since compilation Low
FTSE 100	5986.5	closed	6010.3	6105.80	5088.80	6105.8	986.9

Day's high: 6084.6 Day's low: 5972.6.

LONDON TRADING ACTIVITY Volume : 837,200,000

ACTIVE STOCKS Tuesday	Stocks traded	Close price	Day's change
Shell T&T Rg	29,896,350	452¼	-2¼
Thistle Hotel	11,492,250	186½	+9½
Lloyds TSB	10,860,730	801½	-½
BAT Inds	9,756,894	575	+5
Centrica	8,622,822	103¼	-1¾
Br Steel	8,331,848	167¾	+5½
Unilever	8,313,057	637½	-10½
Br Telecom	8,256,425	683½	+4½
SmithKl Bchm	8,101,654	721½	+6¼
Pilkington	7,907,370	132	+6½

BIGGEST MOVERS Tuesday	Close price	Day's change	Day's chge %
Ups			
Aukett Ass	6¾	+1¾	+28.9
Clinical Cmp	75½	+13	+20.8
Burnden Leis	19	+3	+18.8
Drew Sci	109½	+17	+18.4
Downs			
Boosey&Hawks	637½	-137½	-17.7
Edin Oil & Gs	19	-2¼	-10.6
Aspen Grp	101	-11½	-10.2
Stanfrd Rook	101½	-10	-8.9

INDEX FUTURES

S&P 500	Open	Sett price	Change	High	Low	Est. vol.	Open int.
Jun	1127.40	1125.00	-2.90	1128.10	1124.00	94,668	334,297
Sep	–	1140.30	-1.80	–	1137.00	804	12,124
Nikkei 225	**Open**	**Sett price**	**Change**	**High**	**Low**	**Est. vol.**	**Open int.**
Jun	15600.0	15530.0	–	15610.0	15420.0	17,136	192,336
Sep	15500.0	15530.0	–	15530.0	15500.0	3	12,819

Open interest figures for previous day.

CAC-40 (200 x Index)	Open	Sett Price	Change	High	Low	Est. vol.	Open int.
May	3934.0	3934.0	-29.0	3943.0	3928.0	14,072	36,069
Jun	3939.0	3914.5	-28.0	3925.0	3900.0	1,310	19,673
DAX							
Jun	5320.0	5221.0	-124.5	5331.0	5210.0	24,557	126,547
Sep	5361.5	5267.0	-125.0	5371.0	5268.5	351	17,239

OMX	Open	Sett Price	Change	High	Low	Est. vol.	Open int.
May	750.00	754.00	-1.50	759.75	745.00	22,603	142,317
Jun	753.00	758.50	+1.00	762.75	751.00	2,876	15,433
SOFFEX							
May	7639.9	7565.0	-73.0	7640.0	7548.0	5,225	23,288
Jun	7595.0	7548.0	+11.0	7609.7	7542.0	215	552

WORLD MARKETS AT A GLANCE

Country	Index	May 5	May 4	May 1	1998 High	1998 Low	Yield	P/E
Argentina	General	23330.23	23429.03	(c)	23495.47 23/3	18237.48 2/1	2.9	19.8
Australia	All Ordinaries	2803.5	2812.3	2804.2	2881.40 16/4	2542.40 12/1	3.3	20.4
	All Mining	689.3	691.3	693.7	713.10 23/4	552.20 13/1		
Dull ahead of results statements from NAB and News Corp, expected tomorrow.								
Austria	Credit Aktien	561.52	564.74	(c)	581.52 5/5	437.44 13/1	1.6	15.7
	ATX Index	1553.10	1567.04	(c)	1598.98 23/4	1246.69 13/1		
Interest rate worries sent shares lower. Lenzing gained 1.4 per cent.								
Belgium	BEL20	3097.62	3134.55	(c)	3144.24 22/4	2357.78 10/1	1.8	20.2
Brazil	Bovespa	11423.0	11507.0	(c)	12299.00 15/4	9118.80 9/1	na	na
Lower in thin morning trading.								
Canada	TSE 100♦	468.90	470.84	468.40	475.28 15/4	389.03 12/1	1.5	23.5
	Metals Minls♦	4131.99	4190.59	4215.21	4380.81 10/3	3442.35 12/1		
	Composite♦	7706.90	7737.30	7702.10	7822.38 22/4	6239.98 12/1		
	Portfolio§§	3862.87	3876.41	3871.42	3947.87 15/4	3294.41 12/1		
Shares held level in light morning trade. Newbridge Networks up 3 per cent.								
Chile	IGPA Gen♥	4570.82	4579.07	(c)	4861.95 17/3	4243.47 27/1	2.7	15.2
China	Shanghai B	50.65	51.52	(c)	59.58 10/2	40.89 12/1	0.8	42.2
	Shenzhen B	86.19	86.66	(c)	98.97 10/2	77.98 12/1		
Weakness in Hong Kong equity markets spilled over to Shanghai and Shenzhen hard currency B shares.								
Colombia	IBB	(u)	1233.04	(c)	1431.46 7/1	1130.31 19/3	na	na
Czech Republic	PX 50	493.1	499.0	(c)	517.30 23/3	462.40 4/2	na	na
Blue chips led broad market lower.								
Denmark	CopenhagenSE	736.80	753.45	740.27	778.84 7/4	667.08 12/1	1.3	23.2
Interest rate increase sent shares steeply lower.								
Egypt	Cairo SE Gen	386.31	386.12	(c)	393.19 21/4	345.40 2/2	na	na
Finland	HEX General	4958.60	4993.36	(c)	4993.36 4/5	3220.43 12/1	2.0	17.8
Broadly weaker in slack volume. Nokia fell 1.1 per cent.								
France	SBF 250	2553.07	2564.82	(c)	2564.82 4/5	1873.18 12/1	2.3	18.9
	CAC 40	3944.91	3974.25	(c)	3988.75 6/4	2882.54 12/1		
Shares traded narrowly. CCF bounced on takeover rumours.								
Germany	FAZ Aktien	1693.47	1712.82	(c)	1744.70 14/4	1334.15 12/1	1.3	22.4
	Commerzbank	5000.90	5091.10	(c)	5155.70 20/4	3926.20 12/1		
	DAX‡	5232.03	5314.66	(c)	5442.89 20/4	4087.28 12/1		
Fears for Bundesbank tightening sparked run on financials.								
Greece	Athens SE	2634.54	2602.82	(c)	2634.54 5/5	1380.13 29/1	1.6	28.3
	FTSE/ASE 20	1601.83	1574.21	(c)	1601.83 5/5	786.18 29/1		
Privatisation optimism sent shares higher.								
Hong Kong	Hang Seng	10153.66	10439.42	10563.58	11930.63 25/3	9121.86 12/1	3.9	10.6
	HSCC Red Chip	1327.24	1406.55	1439.30	1776.09 27/2	994.50 12/1		
Economic and regional uncertainties sent shares lower in thin trading. Mainland shares led the falls.								
Hungary	Bux	8609.96	8740.12	(c)	9016.36 23/4	7280.79 12/1	na	na
Uncertainty ahead of Sunday's first-round election vote sparked selling.								
India	BSE Sens.	4147.29	4136.81	(c)	4280.96 21/4	3209.55 28/1		
	Crisil 500	786.76	783.23	(c)	815.82 21/4	594.38 29/1	na	na
Blue chips overcame end-of-account book squaring to push broad market higher.								
Indonesia	Jakarta Comp.	435.16	445.69	448.52	554.19 2/2	342.97 9/1	2.4	14.5
Rising political tension following a rise in fuel prices ensured sentiment remained bearish.								
Ireland	ISEQ Overall	5399.20	5400.05	5405.80	5471.61 21/4	4064.76 2/1	1.7	19.8
Israel	Tel Aviv 100	317.00	317.99	(c)	317.99 4/5	283.12 11/2	na	na
Italy	BCI Comit 30	343.79	348.16	333.56	369.53 6/4	254.84 2/1	1.2	30.9
	Banca Com Ital	1493.76	1494.91	1419.1	1654.35 7/4	1072.35 2/1		
	Mibtel General	23826.0	(c)	24062.0	26377.00 6/4	17206.00 2/1		
Weak as market heavyweight Eni tumbled 2.2 per cent.								
Japan	Nikkei 225	(c)	(c)	15601.10	17264.34 2/3	14664.44 12/1	0.9	41.4
	Nikkei 300	(c)	(c)	241.04	257.43 10/2	224.95 12/1		
	Topix	(c)	(c)	1217.78	1300.39 10/2	1128.61 12/1		
	2nd Section	(c)	(c)	1312.86	1481.27 12/2	1173.76 14/1		
Closed for national holiday.								
Jordan	Amman SE	167.34	167.66	(c)	172.33 3/3	164.54 30/1	na	na
Malaysia	KLSE Comp.	608.40	627.43	(c)	745.36 27/2	477.57 12/1	2.8	13.8
Regional uncertainties discouraged investors. Declines swamped rises 17 to 2.								
Mexico	IPC	(c)	5041.38	(c)	5204.00 2/1	4477.80 29/1	1.2	14.3
Closed for national holiday.								
Morocco	CASA	787.99	784.71	(c)	787.99 5/5	688.57 21/1	na	na
Netherlands	CBS TRtnGen	1353.7	1378.8	1365.6	1378.80 4/5	1045.20 12/1	1.7	25.8
	CBS All Shr	772.9	787.2	779.6	789.20 6/4	599.29 12/1		
Weak bonds and tighter money markets sparked steady selling.								
New Zealand	Cap. 40	2248.09	2237.69	2253.29	2360.02 20/3	2197.81 28/1	4.1	18.2
Sky City Casino continued to benefit from news of a share buyback.								
Nigeria	SE All-Share	6083.90	6111.87	(c)	6594.87 11/2	2236.40 12/1	na	na
Norway	Oslo SE Ind	2370.23	2370.68	(c)	2370.68 4/5	1868.91 12/1	1.4	18.5
Telecoms group Nera fell 15 per cent on disappointing results.								
Pakistan	Karachi SE	1543.75	1533.08	(c)	1748.31 2/1	1502.20 12/1	na	na
Foreign buying helped shares to finish firmer ahead of a two-day religious holiday.								
Peru	Lima Gen	1909.24	1903.91†	(c)	1983.91 4/5	1582.68 25/2	na	na
Philippines	Manila Comp	2267.18	2209.12	(c)	2311.42 25/3	1518.00 9/1	1.2	15.1
Fifth consecutive rise as some investors anticipated a post-election rally. Inflation data in line with expectations.								
Poland	WIG	18035.1	17917.7	(c)	18582.70 11/3	13228.89 12/1	1.2	14.2
Up for fourth session running with BPH Bank up 7.4 per cent.								
Portugal	BNL 30	5847.87	5952.97	(c)	6176.89 22/4	3679.27 2/1	0.9	44.3
	PSI 20	13495.98	13772.21	(c)	14292.89 22/4	9931.84 2/1		
Russia	RTS	315.21	(c)	(c)	411.81 5/1	265.93 29/1	na	na
Ended higher after market returned from a four-day break in upbeat mood.								
Singapore	SES All-S'pore	378.25	382.67	(c)	437.98 19/3	324.92 12/1	2.3	15.5
	Straits Times	1469.27	1476.40	(c)	1698.75 19/3	1093.47 12/1		
Violence in Indonesia soured the mood in Singapore and losses trounced gainers by over 3 to 1.								
Slovakia	SAX	132.26	132.08	(c)	182.48 5/1	130.67 30/4	na	na
South Africa	JSE Gold	(c)	1032.1	(c)	1101.50 24/4	672.80 18/3	2.4	15.0
	JSE Indl.	9761.2	9940.2	(c)	9942.78 20/4	6715.19 12/1		
Shares slipped on broad profit-taking. Sasol fell 4.5 per cent.								
South Korea	KoreaCmpEx**	(c)	391.80	(c)	574.35 2/3	391.80 4/5	1.3	17.9
Spain	Madrid SE	873.30	892.28	(c)	938.83 6/4	645.14 12/1	1.7	28.8
Shares sent lower as leader lose ground. Telefonica off 3 per cent.								
Sri Lanka	CSE All Share	788.00	789.70	(c)	789.78 4/5	655.90 26/1	na	na
Focus continued on heavy activity in plantation issues.								
Sweden	AffarsvarldnGen	3657.5	3685.9	(c)	3780.00 15/4	2853.10 12/1	1.8	22.3
Broad weakness as results season continued to lack surprises.								
Switzerland	SMI Index	7595.2	7640.8	(c)	7827.70 6/4	6062.10 12/1	1.0	30.6
	SPI General	4769.75	4789.25	(c)	4847.72 6/4	3781.36 12/1	na	na
Lower after market heavyweights posted modest losses.								
Taiwan	WeightedPr.**	8330.15	8360.60	(c)	9277.09 2/3	7375.14 12/1	1.2	22.8
Fears over declining exports pulled shares back from early rises. Electronics sector lost all Monday's gains.								
Thailand	Bangkok SET	(c)	400.71	(c)	558.92 3/2	338.17 12/1	2.7	25.4
Turkey	IMKB Nat 100	4258.77	4265.49	4231.11	4385.77 22/4	2777.08 10/2	2.1	21.0
Sent lower by profit-taking after 10 per cent rise over the previous four sessions.								
Venezuela	IBC	6030.71	5998.24†	6104.26	7856.92 23/3	5976.13 4/5	na	na
Zimbabwe	ZSE Industrial	7409.16	(c)	(c)	8795.71 31/3	7409.16 5/5	na	na
WORLD	FTS&P World($)	(u)	294.33	292.71	298.57 15/4	243.58 9/1	na	na
	MS Capital Intl$	1086.6*	1091.5	1082.0	1094.80 15/4	888.50 12/1	na	na
CROSS-BORDER	DJ Stoxx 50	3279.45	3320.83	(u)	3398.00 6/4	2574.51 12/1		
	DJ Euro Stx 50	3261.38	3309.96	(u)	3346.86 6/4	2466.81 12/1		
	FTSE E300	(u)	1236.28	1221.07	1263.69 6/4	971.98 12/1		
	FTSE E100	(u)	2830.90	2778.97	2928.66 6/4	2236.40 12/1	na	na
	HSBC JC Dgn	(u)	242.99	245.17	273.91 26/3	189.25 12/1	na	na
	ING Bngs Emrg	156.03	157.07	157.15	160.06 22/4	125.18 12/1	na	na

– Sat May 2: Taiwan Weighted Price Ind: Korea Comp Ex 406.53. §§ Montreal. ♦ Toronto. (c) Closed. (u) Unavailable. ‡ XETRA-DAX after-hours index: May 5 5228.20 -111.55. † Correction. * Calculated at 15.00 GMT. ⊕ Excluding bonds. ‡ Industrial, plus Utilities, Financial and Transportation. ♦ The DJ Ind. Index theoretical day's highs and lows are the averages of the highest and lowest prices reached during the day by each stock; whereas the actual day's highs and lows represent the highest and lowest values that the index has reached during the day. (The figures in brackets are previous day's). ♥ Subject to official recalculation. Yields and P/E ratios are based on Datastream Total Market Indices. Midsession.

THE NASDAQ STOCK MARKET

4 pm close May 5

Stock	Div.	P/E	Vol 100s	High	Low	Last	Chng
[illegible]							

AMEX PRICES

4 pm close May 5

Stock	Div.	P/E	Vol 100s	High	Low	Close	Chng
[illegible]							

EASDAQ

EASDAQ is a fully regulated independent pan European Stock Market focused on high growth companies with international aspirations. The shares of companies on the EASDAQ Stock Market can be bought and sold through EASDAQ Members.

Company	Mid price	Change on day	Volume	High	Low
ActivCard	US$5.25		34657	7.125	2.25
Algol♦	ITL31250	+1000	2780	31250	12450
Artwork Systems	US$18.25		66750	21.625	5.875
Chemunex♦	FFr15.5		1500	16.5	9
City Bird Holding	US$9.875	+0.125	11155	10.3125	6.8125
Dobonar Holdings	GBP2.65	+0.1	17060	7.15	1.7
Dr Solomon's	US$30	49831	46.25	20.375	
EDAP TMS	US$5.6875	+0.3125	4430	8.125	5.0625
ESAT Telecom	US$33.125	+1.25	184	33.1875	13.25
Espace Prod. Int.	FFr95.88		500	117	88.83
Esprit Telecom	US$16.5	+0.5	4245	19.25	4.875
Global TeleSystems	US$47.25	-0.75	1131	49.125	24.5
Granger Telecom	US$24	37260	27.25	13.5	

Company	Mid price	Change on day	Volume	High	Low
Gruppo Formula	ITL58500	+1000	23248	65650	14250
Innogenetics	US$68.75	-1.25	53648	76.5	9.875
Integr. Surg. Syst.♦	DEM9.3	+0.1	100	12.1	6.8
Lernout & Hauspie	US$58.125	-5.875	180758	103.5	25
Mobilis	US$17.3125	+0.3125	491833	17.8125	7.1875
Mercer Int'l♦	US$9.625	+0.125	0	12.875	8
NTL	US$39.5	-0.375	0	45.5	30.5
Opticon Int'l	US$57.25	-2	49142	69.25	10.375
PixTech♦	US$7	+0.125	5480	7.625	2.125
Royal Olympic	US$18	-0.375	300	18.5	13.625
Schoeller-Bleckmann♦	Sch1608	-2	550	1692	900
Topcall Int'l♦	Sch14125	+175	1643	14450	3065
Turbodyne Technol.♦	US$9.13	+0.65	22287	11.93	2.1

Prices for 5/5/98. Please note that mid prices are now used to calculate highs and lows. Information about EASDAQ can be found on the Web site at: http://www.easdaq.be EASDAQ offices are located in Brussels (Tel. 32-2 / 227 65 20) and in London (Tel. 44-171 / 489 3900). Annual/interim reports can be obtained for companies with a ♦ marked in this box. For further details please see London Share Service pages. For further details please telephone Annual Reports Service +44 181 770 0770

STOCK MARKETS

Investors unsettled by interest rate moves

WORLD OVERVIEW

Interest rates moved in both directions in Europe yesterday, but a tightening by the Bank of Denmark appeared to score a visible points victory over another easing by the Spanish central bank, *writes Jeffrey Brown.*

As a result, the D-Mark rallied to a three-month high against the dollar, and equity markets – with the single exception of Athens – were turning lower long before a weak start on Wall Street set the seal on a dull day's trading.

Germany led the way down among the major centres, unwinding all of Monday's gains and more as tighter money markets and talk of an imminent upward rate move by the Bundesbank unsettled financials. Dresdner Bank fell 4 per cent, but big exporters like Volkswagen and MAN were not far behind.

The Danish rate rise stemmed from local currency difficulties, with the krone under fire from the industrial strike, now in its second week, that is keeping a fifth of the workforce at home.

Nevertheless, it served to remind investors of the general feeling of unease about interest rate trends that economic expansion in the US and Europe has begun to provoke.

In this respect, the next set of US non-farm payroll figures, due on Friday, could be critical. Some brokers are talking about a significant rebound for US job totals after the unexpected decline thrown up in March.

Whatever the immediate interest rate trends, the long-term bull argument for Europe's equity markets remains Emu and the rapid inflow of funds eager to ride on the back of economic and monetary integration.

In their latest assessment of Emu as a harbinger of change, Salomon Smith Barney paints a picture of Europe's stock market landscape 10 years hence that is almost mouth-watering.

The broker looks to equity markets in Europe to expand dramatically over the next decade: "In today's money, Eurozone equities could grow from $3,600bn to $7,500bn."

Salomon puts its faith in a radical increase in new issue flows, continued high consumer savings ratios and growing institutional investment demand.

The wealth of the European population in terms of GDP is not far behind the US, it says. But the supply of public equity lags visibly. If all goes well, the next few years should usher in dramatic change.

The ratio of stock market capitalisation to GDP in Europe is 57 per cent, little more than a third of the 147 per cent ratio to be found in the US.

Profit-taking sends US shares lower

AMERICAS

US shares followed bond prices lower, and the Dow Jones Industrial Average was almost 50 points down by midday, *writes John Labate in New York.*

Prices gave way to moderate profit-taking early in the session, with most sectors falling back. By early afternoon the Dow was down 49.33 to 9,143.33, and the broader Standard & Poor's 500 fell 5.80 to 1,116.27.

US Treasuries also weakened. The benchmark 30-year bond had lost 3/32 to 102 3/8, sending its yield higher to 5.958 per cent.

Two major cyclical shares led the Dow lower. International Paper fell $1 1/16 to $52¼ and Caterpillar lost $1 to $55⅞.

In the health sector, Entremed shares lost 10 per cent or $4 13/16 to $47. The stock soared more than 300 per cent on Monday after a newspaper report mentioned its cancer-fighting drug product.

Shares of Cendant fell $⅞ to $24 5/16 after the company reported earnings slightly higher than expected.

Internet stocks were mixed, a day after the news of two new deals. Shares of Netscape Communications rose more than 6 per cent to $31⅞ on its alliance with search engine Excite. Excite's shares rose $1 1/16 to $73⅞. But Lycos, the search engine that announced a new three-year contract with AT&T, fell $11/16 to $67 11/16.

Other technology stocks were similarly mixed, sending the Nasdaq composite down 9.01 to 1,869.85. Cisco Systems, the computer networking leader, fell $11/16 to $74, while computer chip maker Intel lost $⅝ to $81 11/16.

Banking shares followed bond prices lower. The Philadelphia stock exchange's banking index fell 14.35 to 857.36. Among the fallers, NationsBank lost $1⅞ to $75¼ and BankAmerica $2 11/16 to $83⅞.

Small-cap shares lost ground as well. The Russell 2000 index fell 2.82 to 482.64.

TORONTO was weak in morning trade as growing fears of higher interest rates sparked a widespread sell-off.

The fears followed comments by an International Monetary Fund official who predicted that the US would need to raise rates sooner rather than later to dampen the high-flying US stock market.

Worries over the forthcoming release of the latest US employment data also spooked the market.

By midsession, the TSE-300 composite index was 21.10 lower at 7,716.20 in weak volume of 26.6m shares.

Against the trend, Newbridge Networks gained C$1.35 to C$46.15.

Dax falls on new rate fears

EUROPE

Renewed speculation that the Bundesbank may act soon to raise interest rates sent the D-Mark higher against the dollar and left FRANKFURT equities more than 2 per cent lower.

At the close of electronic trade, the Xetra Dax index was 111.55 down at 5,226.20.

Mannesmann was one of the day's big losers, falling DM67.40 to DM1,477.50 after outlining plans to issue new shares in a capital increase in June.

Banks were also under pressure with Dresdner down DM4.15 at DM99.45 and Bayerische Hypo DM4.65 lower at DM104.35.

The day's corporate reporters had a rather better day. SGL Carbon, the carbon and graphite processor, jumped DM7 to DM200 in response to substantially stronger first-quarter results and an upbeat outlook.

Phoenix, the rubber and plastics group, picked up DM2 to DM38.50 as the company announced a sharp rise in first-quarter pre-tax profit and detailed an improvement in 1997 net profit.

Degussa, however, slipped 75 pfg to DM102.50 in spite of posting substantially higher first-half results.

COPENHAGEN dropped almost 4 per cent as shares were hit by a surprise interest rate rise by the central bank and the collapse of talks seeking an end to the industrial dispute keeping around 20 per cent of the workforce at home.

The KFX index closed down 9.42 to 231.56, led lower by banking shares. The Danish central bank raised its discount and repo rates by 50 basis points to support the krone, which had been under pressure in recent months.

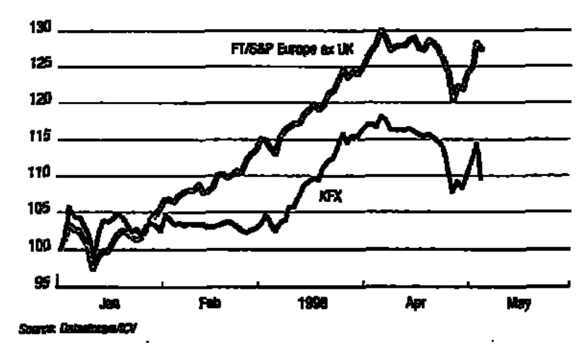
Investor confidence was dealt a further blow when the country's largest trade union group rejected a proposed settlement by employers to end the strike which was in its ninth day yesterday, and involves almost 500,000 workers.

Banks were hit as bond portfolios lost value on the tumble in bond prices. Den Danske Bank fell DKr50 to DKr840 and Unibank declined DKr27 to DKr578.

Other blue chips were also lower with Novo Nordisk, the biotechnology group, retreating DKr50 to DKr1,100 and telecoms operator Tele Danmark down DKr19 to DKr574.

PARIS ended lower, but trading was narrow and there was no shortage of firm features. The CAC 40 index ended off 29.324 at 3,944.91 having moved within a range of less than 30 points.

Danish equities
Indices rebased



Source: Datastream/ICV

Strong sales got behind Alcatel Alsthom, lifting the shares FFr20 to FFr1,175. Usinor rose FFr1.50 to FFr94.30 after Morgan Stanley initiated coverage with an "outperformer" rating and a target price of FFr105.

CCF bounced FFr6.30 to FFr499.90 on a renewed round of takeover rumours that picked a number of big Dutch names as potential suitors. ING and ABN Amro were among the front runners. The latter put out a "no comment" statement.

Oils ran into profit-taking. Elf Aquitaine came off FFr20 at FFr788 and Total FFr11 at FFr724. Lafarge ran up the day's heaviest loss, sliding FFr19 or 3.2 per cent to FFr570.

ZURICH fell prey to profit-taking after the near 6 per cent rally of the previous two sessions. The SMI index closed 44.6 lower at 7,596.2, under pressure from renewed interest rate worries in Germany and the softer tone in US stocks.

UBS and SBC performed better than most blue chips as the Swiss competition commissioner gave the go-ahead to their merger plans. UBS eased SFr2 to SFr2,545 and SBC was flat at SFr549. CS Group lost SFr5 to SFr329.50 with investors said to be switching into UBS.

Against the trend, Holderbank, the cement maker, gained SFr70 to SFr1,665 on a buy recommendation from a private bank.

AMSTERDAM fell 22.86 to 1,174.37 on the AEX index after a further round of tightening in the money markets and a dull day for bonds.

Publishers ran up some of the biggest losses with Wolters Kluwer and Elsevier both falling more than 4 per cent, by Fl 12.70 to Fl 259 and Fl 1.40 to Fl 30.20 respectively.

Interest rate concerns gnawed away at financials. ABN Amro gave up Fl 1.40 to Fl 50.70 while Fortis Amev, off Fl 2.50 at Fl 124.50, was also hit by scare stories suggesting that its "alliance talks" with Generale Bank of Belgium had broken down.

KNP BT lost Fl 1.40 to Fl 55.60 after local broker Van Lanschot reduced 1998 earnings forecasts for the packaging leader by 7 per cent on worries about operating margins. Software group Baan came off Fl 7.60 to Fl 87.30.

MADRID shed 2 per cent, led by sharp declines in blue chips in spite of a cut in money market rates to record lows. The general index fell 18.98 to 873.3.

The Bank of Spain's decision to cut its key money market rate by 25 basis points to 4.25 per cent marked the latest move in Spain's drive to bring short-term rates in line with those of core European countries.

Telefónica lost Pta200 or 3 per cent to Pta6,470 while Endesa, the utility, retreated Pta140 or 3.7 per cent to Pta3,660.

MILAN edged lower in thin trading as a sell-off in blue chips depressed sentiment. The Mibtel index closed down 236, or 1 per cent, at 23,826.

Banca di Roma fell L85 to L3,293, while Eni lost L239 to L12,161 after the government said it planned to sell a fourth tranche of the company, later this year. Olivetti, was among the few blue-chip gainers, rising L61 to L2,468.

ATHENS quickly overcame early weakness on news that the government would give details of its plan to sell Ionian Bank on Thursday.

Financials led the market's advance with a 3.6 per cent climb on renewed hopes for consolidation in the banking sector, but industrials and constructions eased 0.3 per cent and 1.3 per cent.

The general index firmed 31.72 or 1.2 per cent to 2,634.54. Ionian Bank climbed Dr988 to Dr13,273 while its parent bank, the Commercial Bank of Greece, jumped Dr1,551 at Dr20,941.

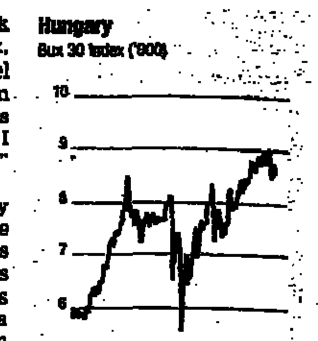
Written and edited by Michael Morgan, Jeffrey Brown, Emiko Terazono, Peter Hall and Paul Gregan

EMERGING MARKET FOCUS

Budapest hungry for new issues

When the Budapest stock exchange index, the Bux, broke through the 9,000 level to hit an all-time high on April 23, Balazs Csato was not too impressed. "I thought it would go down," he said.

Hungary
Bux 30 index ('000)



Source: Datastream/ICV

Though a carpenter by trade, Mr Csato, 27, is at the bourse almost as much as the besuited brokers. He is one of 200 small investors who pack the visiting area every day to lay out from Ft50,000 ($250) upwards on fancied shares.

A stock exchange veteran, he can remember the 20-month bull run that came to an abrupt end last August with the index near 8,500.

Mr Csato, and others around him, are under no illusions. "A run like that won't happen again," says a 52-year-old unemployed mason. But he is still more into blue chips than chipping stone.

Not that the players – big and small – don't see gains ahead, just that the heady days of 1996 and 1997 are over. "This year will see 40-50 per cent growth in forint terms," predicts Lorincz Benedek, head of CAIB Securities fund management.

Perhaps spoilt by the recent past, Mr Benedek almost sounds disappointed with his own forecast before quickly adding: "But that's still a good investment. I'm quite optimistic."

Nor is he worried by this month's elections. "Everybody is waiting, but privatisation is already done. It doesn't matter in the macro sense." Mr Benedek favours mid-sized companies, such as the industrials moving to supply the export-driven engineering sector.

The recovery since December has been driven by four big corporations – Matav, Mol, Gedeon Richter and OTP Bank – says Glenn Wellman, of Credit Suisse Asset Management. The result is an evaluation gap between these and the next tier of companies down, which includes chemicals and home-improvement companies.

Credit Suisse, which favours Hungary with over a quarter of its $1bn invested in central Europe, will target this layer in the next six months, says Mr Wellman.

And with the big privatisations over, more may follow that route. Following the $100m Demasz offering in March, another five electricity distributors are expected to list this year.

But regulations limit their profitability, leaving most investors lukewarm. "It doesn't excite me," says Peter Kadas, manager with emerging market fund Croesus. He awaits new issues needing fresh capital, like biotech companies.

The stock exchange is installing a Ft1.5bn MMTS electronic trading system, and Zoltan Pacsi, chief executive, has initiated a marketing campaign aimed at 200 companies he thinks should be heading for the bourse.

"Many of these need capital, but they just think of bank loans. They are not familiar with the market options," says Peter Bielik, in charge of the campaign. "Simply the idea of coming to the stock exchange has to be promoted."

Kester Eddy

Sell-off fears at Telebrás

SAO PAULO edged lower in spite of hopes of a technical rebound following its decline on Monday.

The Bovespa index fell 101 to 11,406 on concerns over the privatisation of Telebrás, the federal telecom company, and falls in Asia and Europe.

Telebrás fell R$2.29 to R$135.01. Reports yesterday by Andre Lara Resende, the new president of the National Development Bank, that the government was studying the sale of Telebrás, triggered uncertainty over his commitment to reform.

SANTIAGO was dragged down by weakness in overseas markets and falls in ADRs of Chilean companies. The IPSA index fell 9.63 to 4,569.20.

Bullish governor unheeded

SOUTH AFRICA

Profit-taking sent Johannesburg lower as weak global markets and disappointing reserve figures outweighed bullish comments by Chris Stals, Reserve Bank governor, that economic fundamentals justified lower interest rates.

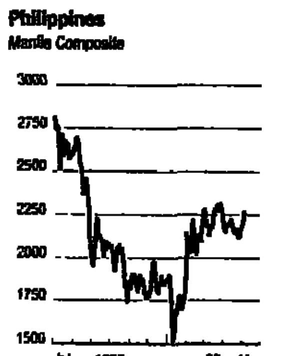
The overall index lost 140.9 or 1.7 per cent to 8,123.3. Industrials gave up 179.0 to 9,761.2 and financials fell 254.9 to 13,728.5. Golds were unchanged at 1,032.1 as bullion stayed range bound.

Manila spurred by poll hopes

ASIA PACIFIC

Aggressive buying of blue chips enabled MANILA to extend its winning run into a fifth consecutive session as local investors positioned themselves for a further market rally after next Monday's election.

Philippines
Manila Composite



Source: Datastream/ICV

The composite index gained 59.06 or 2.7 per cent to close at 2,267.18 in modest turnover of 1.5bn pesos.

The buying was mostly local with investors said to be scenting a smooth run through to polling.

Investors were also said to be more concerned about the way the election was going to be conducted than about who would win the 10-way presidential race.

Benpres Holdings rose 60 centavos to 8 pesos and San Miguel added 3 pesos to 45.50 pesos.

JAKARTA tumbled 2.4 per cent as investors ran for cover after fuel price rises sparked fresh rioting and analysts cautioned that the outlook for the market remained bleak while social tension continued.

The composite index lost 10.83 to 435.16 as news broke of police opening fire on demonstrators in the Bandar Selamat district near the centre of Medan, northern Sumatra.

News that the International Monetary Fund had agreed to disburse a delayed loan of nearly $1bn to Indonesia had little impact.

Among heavily traded blue chips, Astra, the car maker, fell Rp200 to Rp1,275 with high interest rates expected to hurt vehicle sales. Telkom lost Rp125 to Rp3,000.

KUALA LUMPUR saw selling of blue chips gather pace during the second half of the day, driving the composite index down 3 per cent as finance stocks and a handful of big names led the retreat.

At the close, the index was 19.03 lower at 608.40.

Worries about the health of brokerages reappeared after regulators banned Omega Securities from operating and asked both Omega and Alor Setar Securities to say why their licences should not be revoked or suspended.

HONG KONG was sharply lower on the heels of falling futures, in line with regional markets. The Hang Seng index lost 285.76 or 2.7 per cent to 10,153.66 after hitting a low of 10,132.63. Turnover picked up, but remained slim at HK$5.6bn.

Recent local economic data that have been indicating a rapid slowing of Hong Kong's economy weighed on sentiment, as did news that local broker Forluxe Securities had suspended its stock trading activities.

Index heavyweight HSBC lost HK$4 to HK$221, accounting for nearly a fifth of the total turnover.

But red chips suffered the largest setbacks, largely on concern that many of the companies had lost the status and privilege of being linked directly to the State Council.

The China-Affiliated Corporations index slumped 5.6 per cent while H-shares shed 4 per cent.

SYDNEY turned lower with the All Ordinaries index slipping 8.8 to 2,803.5. Volumes were thin with investors said to be sitting on their hands ahead of a number of heavyweight results later this week.

National Australia Bank, which reports interims tomorrow, added 6 cents to A$22.02 and there was an 8 cents gain to A$10.83 for News Corp ahead of third-quarter figures on the same day.

WELLINGTON moved higher, adding 10.40 to 2,248.09 on the 40 capital index. NZ Telecom pared initial gains, but still ended 2 cents better at NZ$8.58. Fletcher Paper gained 11 cents to NZ$2.75.

Carter Holt Harvey shed 1 cent to NZ$2.24 as investors positioned themselves ahead of Friday's results for the forestry leader.

Bangkok, Seoul and Tokyo closed for public holidays.

Information Technology

Wednesday May 6 1998

With the prospect of cheaper calls, Internet telephony will transform the economics of telecommunication services for business users, reports **Paul Taylor**

Big shake-up for telecom suppliers

Until about a year ago, Internet or IP telephony – the technology that enables voice calls to be routed over data networks – was mostly dismissed as not a viable business option. Handicapped by its low speech-quality and complexity, it was seen as little more than a hobby for computer 'nerds' or a way for impoverished students to make cheap calls home.

Now, however, spurred on by privatisation, liberalisation and deregulation in the telecoms industry and the emergence of a new breed of 'data centric' network operators such as Qwest, IDT and Delta3, IP telephony it is set to enter the mainstream as a low-cost alternative to traditional telephone services for both individual consumers and big companies.

For example, Qwest, the fast-expanding US-based fibre network telecoms upstart launched a cut-price IP telephony service aimed at the US consumer market in December. Users dial into the network with a local number, then enter a 10-digit authorisation code and the telephone number they are calling. Long distance calls cost 7.5 cents a minute – considerably cheaper than traditional call charges.

"These are exciting times for IP telephony," says Mark Purdom of Ascend, the communications network equipment specialist. But like most other industry insiders, he believes that while consumer Internet telephony applications grab most of the headlines, it will be corporate demand for IP services that will ultimately drive IP telephony – not least because most large companies already have dedicated data lines or virtual private networks.

"This is going to be a big year for IP telephony," agrees Patrick Fetterman, director of IP Telephony at US-based Natural MicroSystems, a technology leader in the field of advanced telecommunications. "From the traditional 'telco' infrastructure to advanced applications in call centres, IP telephony is creating new markets, opportunities, and revenues," said Natural MicroSystems in a recent report.

In the US, the market for IP telephony services is expected to be worth about $30m this year, but by 2004, annual spending on Internet phone calls will rocket to $2bn, or more than 4 per cent of US long-distance telephone revenues, according to Forrester Research, a market research group. "Internet telephony is about to get respectable," says Christopher Mines, a telecoms analyst with Forrester and the author of a recent report on the subject. Another study by Frost & Sullivan predicts that the total IP telephony equipment market will have a compound annual growth rate of nearly 150 per cent for the next few years, reaching $1.89bn by the year 2001.

Most industry analysts think it unlikely that IP telephony will replace the traditional voice networks in the foreseeable future, not least because of the huge levels of investment tied up in the 'plain old telephone service' and the relative sparsity of Internet access. But there is no doubt that IP telephony is already creating dramatic changes in the traditional telecommunications industry forcing big telecoms operators to alter their strategies and in some cases, to set up their own IP telephony operations.

In technical terms, IP telephony represents the convergence of circuit-switched networks, such as the traditional Public Switched Telephone Network (PSTN) and leased lines, with packet-switched networks, such as the Internet or intranets, local area networks and other data communications technologies.

Instead of being handled as an analogue signal over the circuit-switched networks of the telephone companies, voice calls over the internet are cut up into digital 'packets', compressed, transmitted independently to their destination over the internet and are then re-assembled into speech.

Because these packets can be packed tightly together, they do not waste space on the silences and pauses that make up a typical conversation, they make much more efficient use of network bandwidth.

"The driver has been to make better use of the most expensive resource – wide area bandwidth," say Richard Frawley and Paul Shreeves, experts on IP telephony with Cisco, the network equipment market leader. Using compression it is possible to squeeze up to 10 times more voice down a digital IP link than the equivalent analogue line.

What is more, from the user point of view, an Internet telephone call costs the same, no matter how far the distance. In addition, by treating voice as another form of data and sending it over the same network as data, IP telephony is enabling new applications that use the best characteristics of voice communications and data processing.

These applications can include PC-to-PC connections, PC-to-phone connections, and phone-to-phone connections. Example applications include voice over the internet or corporate intranets, fax traffic (both real-time and store-and-forward), unified messaging via the web, web-enabled call centres, internet call waiting, and much more.

Companies will seize the opportunity to cut their phone bills by using new Internet services once sound quality issues are resolved, predicts Forrester.

International calling, fax and intra-company phone calls are identified as three types of communication most suited to IP telephony. The economics of fax transmission over the Internet are particularly compelling, because it does not matter if a fax is sent in the form of packets, is bounced around the network and then reassembled, with a few seconds delay, before being forwarded on to the recipient's fax machine. UUNet recently launched a service called UUFax which takes fax transmissions that would have travelled over expensive long-distance telephone connections, and re-routes them over the Internet.

"The Net will provide the next generation of fax technology allowing more companies to cut crippling communications costs," says Rony Homossany, in charge of sales and marketing at Ralinx whose PASSaFAX products enable companies to route faxes via their existing data network or the Internet.

Voice conversations are more demanding because network delays (latency) or lost packets can lead to an unacceptable deterioration in quality. Indeed, much of the scepticism surrounding voice over IP services reflects the limitations of the first generation of Internet telephony software, launched in 1995, which provided a means to talk only to people with the same software. Sound quality was often poor, and intermittent delays forced users to adopt CB-radio style procedures.

But the technology underpinning IP telephony is advancing quickly. The big breakthrough has been the introduction of 'gateway servers' that link data networks to traditional telephone networks. In the 'gateway', analogue voice signals from a telephone are converted into digital packets based on the IP standard, or vice versa. This enables PC users and companies with Internet links to place calls to anyone with a telephone.

Sales of gateway servers supplied by companies such as VocalTec, the Israel-based IP telephony specialist, are expected to rise dramatically over the next few years to reach more than $1.8bn by 2001, according to Frost & Sullivan, the market researchers.

Meanwhile, the sound quality of Internet phone calls is also improving. "The quality is already better than cellular phones," says Elie Wurtman, founder and president of Delta 3, one of the market leaders. Indeed, Delta3 claims its service can actually offer better quality than existing lines from many developing countries – at a fraction of the cost.

One way open to corporate users to further improve quality is to route voice calls over a private Internet-style network where bandwidth requirements can be effectively managed.

An alternative is a concept called tag-switching, devised by Cisco and being evaluated as a standard by the in Internet Engineering Task Force. With tag-switching, the first packet carries the equivalent of the pass that allows business passengers to go through a fast lane at customs. It clears a path for subsequent packets.

This type of technology will enable IP telephony service providers to offer quality of service (QoS) guarantees and provided tiered tariffs to their business customers.

This ability potentially poses a serious threat to traditional phone companies. Phillips Tarifica, a UK consulting group, estimates that US phone companies stand to lose $900m a year in revenues by 2001 and predicts that leading European carriers would also lose hundreds of millions of dollars.

However, a growing number of traditional telephone companies including AT&T in the US and Germany's Deutsche Telekom are rising to the challenge.

"The Internet is a major force for change and the key to huge new market opportunities for telecoms companies which have to decide whether they embrace the new Internet economy and take a lead in creating the future, or fight a rearguard action against it," says Analysis, the Cambridge-based telecoms consultancy. Indeed, with IP voice traffic projected to rise from virtually zero last year to more than 45bn minutes – or more than 25 per cent of the total – in 2003, there is little doubt that the migration of voice to the Internet will transform the economics of telecoms services.

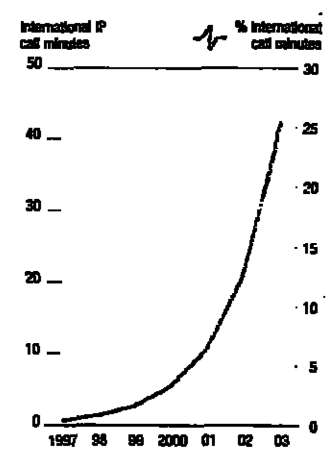
Nortel, the telecommunications equipment manufacturer, says that "voice over IP is the opening shot in a battle that will break down the barriers between voice and data carriers and reshape the industry."

In the process, business users as well as consumers, should reap the benefits of competition in the form of broader range of services and reduced costs.

"In a few years, people will look back to an age where voice and data traffic were carried on separate networks with the same mixture of puzzlement and humour with which many regard the stand-alone PC of the 1980s," says Nortel.

"Certainly, the logic behind integrating the two types of traffic is inescapable."

The rise of IP telephony traffic
Billions of call minutes



Source: Analysys, Cambridge, http://www.analysys.com

IT NEWS UPDATE

Industry leaders Microsoft and Intel are facing mounting antitrust pressures, reports George Black

June launch of Windows 98 still under threat

Antitrust actions against industry leaders Microsoft and Intel are intensifying, amid signs that US authorities are taking a more interventionist stance.

Twelve US states are working with the Department of Justice with a view to halting Microsoft's planned June 25 launch of the Windows 98 operating system. The Software Publishers' Association, which represents 1,200 software companies worldwide, has called on the Justice Department to block Windows 98 and take action against what it calls Microsoft's anti-competitive practices.

US reports say that the authorities could issue writs against Microsoft, the world's leading software company, as early as this week, though the chances of them stopping the launch are uncertain. They will have to move quickly to intervene without causing serious disruption in the market. The product has been under test by around 100,000 users and is due to ship to manufacturers in the middle of the month.

Microsoft's opponents have complained that it is unfairly forcing PC manufacturers who licence its operating system to instal its browser. Microsoft contends that Windows 98 does not bundle Internet access with the operating system but is a wholly new and integrated product.

It has responded with an advertising campaign against government intervention. Rival Netscape has alleged that Microsoft in 1995 illegally proposed a deal to divide the browser market between them, a claim which Microsoft has rejected.

US politicians have begun to take sides on the issue. The Justice Department has widened its inquiry to include the dispute between Microsoft and Sun Microsystems over the Java language, which is seen as potentially important for Internet commerce. Sun and others have accused Microsoft of diverging from the proposed industry standard to tie Java to Windows.

The Justice Department has received a number of submissions from the industry on how Microsoft's dominance could be restricted.

Sense of urgency

Last month Microsoft appeared before a US appeals court seeking to overturn the Justice Department's injunction ordering the separation of its Windows 95 operating system from the browser. Microsoft's lawyers said no computer manufacturer had chosen Windows without the browser, though it had given them that option as instructed. The court is expected to rule on this case imminently.

There is a rising sense of urgency in the IT industry surrounding the antitrust probes, since many other software developers are planning to introduce applications programs designed for use with Windows 98. PC makers are also gearing up for the software program. The potential for disruption throughout the PC industry would weigh heavily against a court granting an injunction. A coalition of technology companies, computer retailers and distributors with combined revenues of more than $100bn (£60bn) launched a lobbying effort last Thursday in opposition to the states' planned legal action.

Meanwhile, the Federal Trade Commission, which is looking into chip-maker Intel, is taking sworn statements from its executives. The FTC is trying to ensure the survival of Digital's Alpha chip, a rival to Intel, albeit a marginal one.

Intel recently bought Digital's Alpha factory. The FTC has ordered Digital to licence Alpha production to at least three other companies. FTC chairman Robert Pitofsky has spoken of the danger of "bottleneck monopolies." In a separate action, a US court in Alabama ruled that Intel appeared to have acted in restraint of trade and violated antitrust law in a dispute with workstation manufacturer, Intergraph. Intel has appealed.

Microsoft holds around a 90 per cent share of the operating systems market and Intel around 94 per cent of the microprocessor market.

PC prices fall sharply

Personal computer prices are continuing to fall sharply, squeezing the margins of the industry leaders. Sales are rising, but even the largest vendors are finding the going extremely tough because intense competitive pressure keeps forcing prices down.

Lower PC prices cut Intel's profits by 36 per cent and compelled it to lay off 3,000 staff; lower prices also cut Compaq's profits by 96 per cent and contributed to IBM's first quarter profit decline of 13 per cent.

Prices look set to continue to fall through the current quarter as dealers try to get rid of excess stock in preparation for introducing new models in the third quarter. Compaq admitted it had overstocked the reseller channel and said this would take the second quarter to rectify.

Some PCs are now selling in the UK for little more than £500. Intel reacted by launching its new Celeron chip aimed at PCs priced below $1,000. Regional director Dave Hazell says the company believes that machines based on the Celeron will appeal to home users and some smaller business users, but that the larger part of the market will remain with 'performance' PCs.

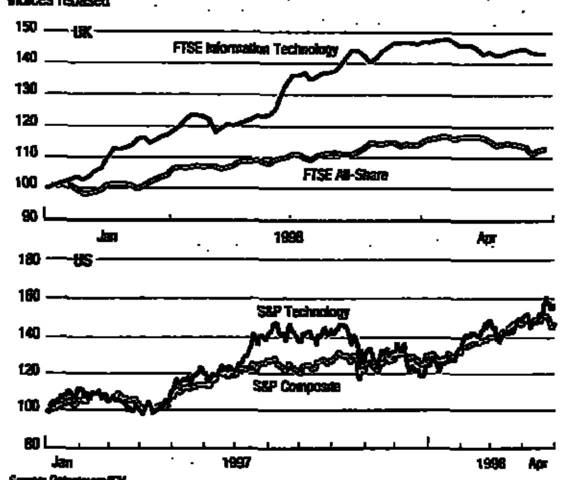
With this in mind, Intel also introduced new Pentium 11 chips running at 350MHz and 400MHz. PCs using these chips, likely to be priced from £1,400 to £2,500, will come on to the market in the next few months. "The second half of the year should be more normal," says Hazell. Intel believes the arrival of digital video disks *(see report, page nine)* will cause a lot of upgrading to more expensive PCs towards the end of the year.

The battle among the leaders for market share is making it ever harder for second-tier vendors to stay in the business. Siemens-Nixdorf has announced that it will withdraw from manufacturing, disposing of its German factory to Acer of Taiwan, one of the strongest of the second tier. Dutch manufacturer Tulip has gone into receivership.

Prices could fall further still if National Semiconductor succeeds in its attempt to combine most of the PC functions on to a single chip. It hopes to be producing such chips by mid-1999, which could bring personal computer prices down to around $400, it claimed.

Price pressures are also combining with the Asian financial crisis to trouble memory chip producers, forcing LG and Hyundai to postpone opening their UK plants.

How high tech sectors outperform
Indices rebased



Source: Datastream/ICV

Golden handcuffs for IT staff

As companies struggle to convert their systems to cope with the year 2000 date change, they are being forced to pay IT staff more in order to retain them.

Loyalty bonuses of 50 per cent of salary are becoming commonplace in the UK, with some even willing to offer a 100 per cent of salary bonus.

Typically, companies are planning to pay the bonus some time in the year 2000, after the systems should have been shown to work and they can risk losing some staff. Trades unions have begun to use the emergency as a bargaining counter. For example, the Banking and Finance Union has been in dispute with Barclays, demanding a special bonus to tackle the work and claiming that this was needed to keep them in line with other large employers.

Other employers are trying different tactics, such as offering increased holiday, share options, more flexible working conditions and more frequent pay and career reviews. Some are asking for longer periods of notice before staff can leave.

Many businesses are discovering that they have substantially under-estimated the impact and associated costs of the so-called 'millennium bomb' – or 'Y2K' problem.

Meanwhile, some companies have already encountered problems with non-compliant software and date-related calculations. Now investors, auditors and lawyers are becoming increasingly interested in the issue.

Last month, Tony Blair, the UK prime minister, announced a new initiative to create more IT skills by introducing short training courses. But industry sources expect that this will make only a minimal impact on the year 2000 problem and say that companies must act urgently in whatever way they can to attract and retain staff from an already overstretched market.

See section three: fast-changing IT skills prove difficult to develop – page 10

RESEARCH DIGEST • By George Black

The menace of spam

While in the US attempts are being made to legislate against 'spamming' – or junk e-mail – the spam problem is costing British and Irish businesses £5bn a year in wasted time and could affect the progress of the Internet, according to a report sponsored by Novell, the networking company.

Nearly two-thirds of the respondents said they had received spam, mostly selling products or services. But much spam is aggressive or pornographic, the survey found. Most of the time is wasted in simply reading and then deleting the useless messages.

Filtering techniques are rarely used, either because people do not know of their existence or because they are difficult to apply so that *bona fide* e-mails are not blocked.

Legal remedies are also rarely sought. In the UK, it is still unclear whether the Computer Misuse Act could be invoked if actual damage to systems were sustained.

Profits 'are exaggerated'

Many US and European high technology companies may be greatly over-stating their profits because of the way in which they account for share options, says a new study by London research firm, Smithers and Co.

It has calculated that companies may have overstated their profits by as much as 30 per cent because share options are not charged to the profit and loss account as costs. In some years this could make the difference between recording a profit and recording a loss, says Smithers.

Microsoft and Intel are among the companies which, it claims, would have made a loss in recent years if costs had been correctly stated. Most other large IT companies on both sides of the Atlantic follow the same practice. An attempt by the US accounting authorities to change the rules in the early 1990s was unsuccessful.

IT spending escalates

Spending on IT as a proportion of total spending is rising inexorably, a new report by benchmarking organisation, Compass, indicates. Expenditure has risen from 2-3 per cent in the 1980s to 7-10 per cent today, with some large companies even spending more than 20 per cent. But Compass points out that most companies cannot fully justify this expenditure, as they are not measuring the contribution of IT to their profit.

Worries over e-commerce

Small and medium-sized enterprises think that cost of entry, shortage of expertise and market uncertainty are the main barriers to engaging in electronic commerce. This is the main finding of a survey by e-commerce systems vendor, ICAT.

Around 85 per cent said the cost was likely to be prohibitive, though most recognised it could increase their revenues and bring competitive advantage. Of those already involved in e-commerce, 92 per cent said it gave them a strategic advantage.

□ *InterForum's London symposium, 'Using electronic commerce to expand your company,' is on June 10: for details, see diary dates, below*

Diary dates

□ **May 7-10:** IT Directors' Forum, P&O ship, *Oriana;* conference; for details, call Richmond Events: +44 (0)181 332 2422.

□ **May 5-7:** Infobase and Internet World Spring '98, Frankfurt, Germany; International Trade Fairs; Messe Frankfurt: 00 49 69 7575 6801.

□ **May 11-14:** Internet World UK Spring '98, London Olympia; conference; contact, Mecklermedia: +44 (0)171 976 0405.

□ **May 13:** IT Futures '98, Hesslewood Hall, Hessle, East Yorkshire, UK; conference run by Martin Butler, chairman, Butler Group. Details on +44 (0)1482 642700.

□ **June 2-3:** Preparing for EMU: the IT challenge, London; conference and workshop; Business Intelligence: +44 (0)181 879 3355.

□ **June 2-3:** Marketing on the Internet, Washington hotel, London; conference; Learning in Business: +44 (0)181 944 9030.

□ **June 3-5:** Electronic Commerce Europe, Amsterdam, Netherlands; conference: EEMA: +44 (0)1386 793028.

□ **June 9-11:** Telebusiness '98, Wembley Conference Centre, London; conference and exhibition; for details, call Starform: +44 (0)181 201 9888.

□ **June 10:** InterForum '98 Symposium, in association with the Department of Trade and Industry: the symposium theme at the Queen Elizabeth II Conference Centre, Westminster, London, is: Electronic commerce today and its role in your company. Details from InterForum on +44 (0)1784 473 005; web site, http://www.interforum.org

□ **June 16-17:** International conference on knowledge management, Mayfair Intercontinental Hotel, London; conference; for details, call ICBI: +44 (0)171 915 5103.

□ **June 17-18:** Business Intelligence 98, London Olympia, conference; for details, call Business Intelligence: +44 (0)181 879 3355.

□ **June 23-25:** Networks Telecom, NEC Birmingham; conference: details from Miller Freeman on +44 (0)1203 426511.

THE MONTH IN BRIEF

SAP up 72 per cent

SAP, the world leader in business applications software, recorded a 72 per cent jump in profits in the first quarter, reflecting heavy spending on new systems to cope with the year 2000 problem and Economic and Monetary Union (Emu). But the German company warned that the second half of the year would see slower growth as those projects began to be completed and the Asian financial crisis made an impact. Stronger competition with SAP from Oracle, PeopleSoft, Baan and others is foreseen by analysts.

Tech Data buys Computer 2000

Tech Data, the US computer products distributor, has bought 80 per cent of the German company Computer 2000 for around $395m. This reinforces Tech Data's position as the second largest equipment distributor in the world after Ingram Micro, supplying around 150,000 dealers, with sales of around $12bn.

Apple makes another profit

Apple Computer, the personal computer manufacturer, made its second successive quarterly profit, better than expected at $55m, though revenue was down slightly to $1.4bn. Acting chief executive Steve Jobs has been asked to stay.

Dixons buys Byte

The UK PC superstore business is now dominated by Dixons after it bought the Byte chain of 16 stores from Specialist Computer Holdings for between £5m and £7m. The Byte stores, which had been making a loss, will be re-named as PC World to match Dixon's 50 other superstores. Dixons issued a profit warning in January, partly due to slowing sales at its PC World outlets.

ISPs not held responsible

Internet service providers are not responsible for the content of Web sites to which they give access, a US court ruled, upholding the case put forward by America Online. The ruling was applied in a defamation suit against a Web site and AOL. It clarifies what ISPs have long argued, that it is unfair to treat them like traditional publishers in this respect.

Two UK companies to float

British IT services companies, Computacenter and ITnet, plan to float on the London Stock exchange. Computacenter, a leading distributor and support service, has grown to £1.13bn revenue since it was set up in 1981 and is expected to be capitalised at around £900m. ITnet, the former IT department of Cadbury Schweppes and now a top outsourcing provider, is likely to be valued at around £200m.

Intel's Grove to quit

Andy Grove, co-founder of the chip manufacturer Intel, will this month step down as chief executive and hand over to Craig Barrett. Barrett has been responsible for Intel's manufacturing operations for many years and the succession was foreseen. Grove will concentrate on his role as a champion of industry issues.

Symbol approaches Telxon

Symbol Technologies, a leader in handheld scanners, has made an informal takeover approach to Telxon, one of its principal rivals. Symbol said it hoped for an amicable solution but did not rule out a hostile bid. Telxon said its board would consider the offer. Both companies' shares rose on the news.

Silicon Graphics makes loss

Silicon Graphics, the workstation manufacturer which competes with Sun Microsystems and Hewlett-Packard, reported a heavy loss and reduced revenue in its third quarter. It had issued a profit warning. Revenue was down 22 per cent to $708m and the company made a loss of $68m. It announced a re-structuring and said it plans to move more towards using industry-standard Intel chips and Microsoft's Windows NT operating system.

Digital prepares for merger

Digital reported better profits than expected as it slims down in preparation for completing the take-over by Compaq in the next few months. Third-quarter profit was up from $51m to $307m after the sale of its networking business to Cabletron, but revenue was down 4 per cent, as customers awaited completion of the deal. Further severe staff cuts are anticipated after the take-over and Digital's chief executive Robert Palmer is expected to leave.

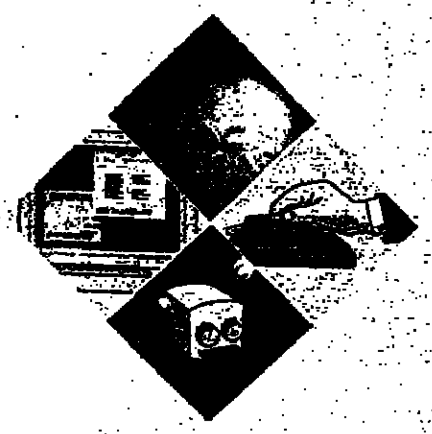
Check Point hit

Shares in the leading firewall vendor, Check Point Technologies, fell by around 20 per cent on a statement by Microsoft that it would enter the market for Internet security products. Check Point is an Israeli company with a head office in the US. It floated in 1996 and has prospered since then, but the prospect of competing with Microsoft has shaken the confidence of investors.

ARM shares buoyant

Shares in ARM, the UK chip developer spun off from Acorn Computers, jumped 70 per cent in five minutes after the company floated on the London Stock Exchange. At one point in the day they reached £10, though the original float price had been twice raised and the eventual float price was fixed at £5.75. ARM was also listed on the US Nasdaq exchange. Its first quarter profit more than doubled to £1.6m on turnover up 66 per cent to £8.6m.

George Black's e-mail address: gbg26@dial.pipex.com



The FT Review of Information Technology

This review is published on the first Wednesday of the month. In addition, FT-IT features appear in the 'Inside Track' section of the FT on each of the other Wednesdays of the month. The IT Appointments section is also published each Wednesday.

FT-IT Review, editorial controller: Michael Wiltshire.
Editorial inquiries: see details of the FT-IT fax-u-back service, page 15.
Writers in this issue, (volume four, number six): Paul Taylor, IT correspondent; John Kavanagh, Geoffrey Nairn, Tom Foremski, Philip Manchester, Rod Newing, George Black, Geoffrey Wheelwright, and Jola Shillingford.

Cover illustration: Mark Thomas.
Graphics: Robert Hutchison.
Picture research: Patricia Lee and Matthew Glynn.

The next issue: Wednesday, June 2. Themes will include IT in retailing; IT in sport; and a third section which will focus on 50 years of IT, as June marks the 50th anniversary of the first computer to run with its own program, stored in memory.
Plus: IT news update and interviews with key figures in the IT industry.

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Paul Taylor interviews Gaston Bastiaens, chief executive of the speech technology pioneer, Lernout & Hauspie

Breakthroughs in voice technology

When Microsoft, the world's largest software group, invested $45m in Lernout & Hauspie, the Belgium-based speech technology pioneer, last autumn, it sent a wake-up call to the information technology industry: after years of laboratory development, voice technology is a 'hot' topic poised to enter the commercial mainstream.

"Over the last year there has been a fundamental breakthrough in the acceptance of speech across the range of applications," says Gaston Bastiaens, Lernout & Hauspie's chief executive. "The reason for this is very obvious – it is due to the ability of high speed, low cost, digital sound processors, and high-speed microprocessors."

As a result, he says it is now possible to integrate complex algorithms with low cost devices while maintaining high quality. "The market for speech applications includes key markets such as computing, consumer electronics, communication, document generation, education, entertainment, navigation, productivity and security – all areas where today you can see real-world speech-based applications," he says.

At present, the biggest sector is in telephony, where applications range from voice-dialling to automatic attendance, e-mail reading, web telephony, voice paging, voice-based telephony broadcasting, smart phones and universal mail boxes.

Another important area is certainly the consumer electronics market where, up to now, the main application has been "talking dictionaries," says Mr Bastiaens. "Now, you see speech integration in electronic organisers, digital answering machines and voice recorders, and companies are working on hand held translators."

Other areas that are growing rapidly are the home automation and industrial markets which include factory automation systems, security and car navigation – "this is a market we consider to have high potential growth and it is an area where we have a strong position as a result of important deals that we have made over the last year with chip manufacturers such as Hitachi, NEC, LG Semicon and SGS-Thomson," says Mr Bastiaens.

The company has also completed deals with market system suppliers, such as Pioneer and Alpine, which integrate L&H technology into their systems. "Microsoft has decided to integrate our ASR200, automatic speech recognition engine and text-to-speech engine in the Windows CE platform focused on car navigation," he adds.

L&H's close relationship with Microsoft also includes a co-marketing deal with the US software giant. "This is important to our dictation division where we have introduced VoiceXpress technology which is based on continuous dictation and combines capability found in our Voice Commands product, a natural language-based command and control system.

Initially, L&H is targeting the American market where it has a strong position following the acquisition of Kurzweil, he says. "We will also be targeting the broader business market and in that area the co-operation with Microsoft is of very high importance."

Mr Bastiaens argues that the human voice is the most natural way to communicate with devices and software programs. For instance, in the medical market, in areas such as cardiology, radiology and emergency medicine where doctors and specialists need to record everything they do, voice is the most natural way.

"Voice is a very simple way to communicate if you are dealing with financial transactions or, if you are looking at security, as the human voice is as unique as your fingerprint – and this can give you protection," he adds.

In education voice can also be very important. "We are working on programs for devices such as talking dolls where a child can talk to the doll and the doll can talk back. "It is a very, very good way to help children learn to write and pronounce properly," says Mr Bastiaens.

Gaston Bastiaens believes the voice technology market will grow into a multi-billion dollar market in the next decade

Over the next ten years, he believes the voice technology market will grow into a multi-billion dollar market. The dictation market alone could be worth about three billion dollars worldwide because of the breakthrough in continuous dictation. Meanwhile, the translation services market is already worth about three billion dollars and is growing by 15 per cent a year. A big part of that is currently human-based, but L&H insists its machine translation technology is rapidly making inroads into the market.

"There are a lot of companies that are in speech technology, but the majority of them are *niche* players," says the L&H chief executive.

"We are basically the only global player who can offer the broad range of solutions. If you look at the compression market, there are big players such as Lucent and a lot of smaller players such as DBSI, and also the DSP Group that integrates coding and chips and so on, but we are in a strong position with our low-bit codes for wireless communications.

"Also, continuous dictation where you have suppliers such as Phillips, IBM, Dragon and so on – again, there we also have a unique position because of our integration of continuous dictation with natural language base commands, so I think across the board we are the only company that clearly has all those technologies."

He also insists that the group's phonetic-based engine and, more particularly, its linguistic components, give it an advantage over some of its competitors. "Our background in machine translation together with dictation and text to speech means that we are able to develop natural language based components and natural language processing.

"If you can understand a sentence it is much easier to translate it. When a computer understands a sentence, then the computer can better answer it. And that's the basis of the dialogue system. When you take a sentence which resembles another sentence with the same components, it's then very easy to respond to it."

Mr Bastiaens also believes that being headquartered in Belgium has been a positive advantage. "Take, for instance, the linguistic element of machine translation. Let's look at the European Union. The EU has to support 15 countries with 14 languages and they are going to add five new language areas which will include Czech and Polish and so on.

"After that, they are going to add another six, so in the end, every time they add another language, such as Ukrainian, they have to add 21 language pairs.

"It may be easy to find Ukrainian, German, French or English translators, but finding Ukrainian to Danish, or Ukrainian to Flemish translators, would be very difficult to find."

Looking ahead, he says he expects L&H's four basic businesses to grow in tandem. "I expect that we will get 30 per cent of our revenue from licensing, 30 per cent from dictation, 30 per cent from translation services and 10 per cent from machine translation. We expect these figures to be in place for the next couple of years and we will see growth in all four areas in revenue and in earnings contribution".

Lernout & Hauspie's man at the top

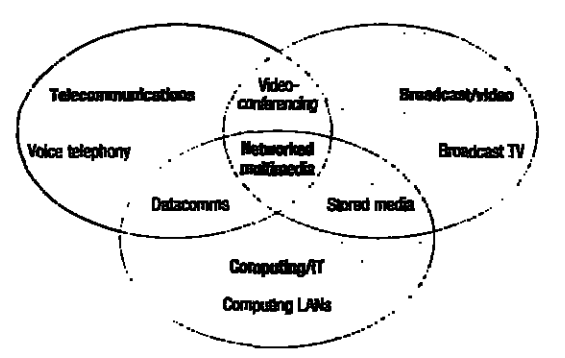
Name: Gaston Bastiaens.
Title: President and chief executive, Lernout & Hauspie, Belgium.
Education: Masters degree in engineering, Louvain University, Belgium.
Career: Mr Bastiaens has 20 years' experience in the consumer electronics, multimedia and computer software industry. He started at Philips Electronics, as general manager of the interactive media division. He was vice president and general manager of Apple Computer's personal electronics division and became president and chief executive of Quarterdec before becoming president of Lernout & Hauspie.

FT IT

Focus on digital *broadcasting* and new media

Here and on the following five pages, FT writers look at the impact of digital technology in the home and business world:

Multimedia industry convergence



Visions of a multimedia-rich millennium

With the convergence of the IT, telecoms and broadcasting industries, many organisations are positioning themselves to provide multimedia products and services to the home and business, reports **Paul Taylor**

We are in the midst of a digital maelstrom which is reshaping the traditional computing, communications and consumer electronics industries and promises unprecedented choice for consumers and a new multimedia-rich world of information, education and entertainment.

This revolution which spans the traditional media, broadcasting and cable industries but also embraces new forms of distribution, has at its core the development, *manipulation and dissemination* of information stored in the form of the 'ones and zeros' of binary computer language.

Because they share a common foundation, digital technologies are sweeping away the differences between data processing and telephony, laying the foundations for the dawn of the information age, or global information society as the European Union calls it.

Digital technology has made it possible to convert text, sound, graphics and moving images into coded digital messages which can be combined, stored, manipulated and transmitted quickly, efficiently, and in large volumes over wired and wireless networks without loss of quality. This dynamic process is epitomised by the explosive growth of the Internet and the deployment of new digital interactive services via cables, satellites and – with the UK in the forefront – via digital terrestrial television.

"Convergence of the IT, telecoms and broadcasting industries – made possible by developments in digital technologies – means that many different organisations are positioning themselves to provide multimedia products and services to the home and business," says Ovum, the London-based market research firm.

"Digital TV, though essentially a new method of television transmission, has become the buzzword for a revolution," says a recent issue of Insights, a newsletter published by Booz Allen & Hamilton. "With its potential for narrow-casting, individualised viewing and full interactivity, it represents an opportunity to push television into the online world, as well as hasten the development of multimedia into a *mass market medium.*

This convergence could dramatically change traditional industry structures – new players will enter the race for 'eyeballs' and previously distinct platforms will become intertwined. This is reflected in the growing number of alliances, partnerships and mergers in the IT, communications and entertainment industries. Elsewhere, convergence is creating great business opportunities and challenges.

For example, Internet telephony and e-mail are challenging traditional telecoms business models, while web television and 'push' technologies are forcing broadcasters and information suppliers to reassess their strategies and embrace new technologies such as digital broadcasting, cable modems and digital versatile disk (DVD) which all promise a revolution in delivery channels.

In the home, web television, smart phones and low-price computing devices such as set-top boxes and network computers herald the arrival of the digital networked home. "NCs are significant because they are part of the convergence between the TV and computer industries and also because they enable new services," notes Ovum. NCs could provide the 'bridge' between the competing aspirations of the television and computing industries.

Other important indicators of this 'convergence' include the launch of direct satellite services linked to PC-card adapters manufactured by companies, such as Adaptec, capable of delivering broadband multimedia services including rich web content direct to the desktop.

Digital radio and television in particular represents an exciting new opportunity. While the BBC is working on a range of digital audio broadcasting, this year will also see the launch of mass market digital satellite television in the UK and the world debut for digital terrestrial television.

British Digital Broadcasting, a partnership between Carlton TV and Granada, plans to launch digital terrestrial service this autumn, but also faces some tough competition from satellite and cable-based digital services. BSkyB and its joint venture British Interactive Broadcasting (BIB) with its partners, British Telecommunications, Matsushita and Midland bank, plans to launch a digital satellite service next month. Meanwhile, Cable & Wireless Communications unveiled plans in March to provide 200 digital cable TV channels and internet access to its 760,000 customers.

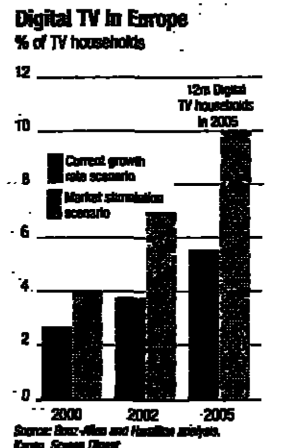
Ed Straw, a partner with Coopers & Lybrand's consultancy practice in London, highlights the emerging 'platform wars' between digital cable, satellite and terrestrial services in a soon-to-be published report.

"Each platform has its benefits," he says. "Cable has interactivity, capacity and telephony but the investment is high, coverage is not universal, it has received a bad image and their are 'nuisance factors' getting connected.

"Satellite has reach and capacity, it is less good on interactivity and targeting and you need a dish. Terrestrial is familiar, uses the existing aerial and benefits most from the analogue 'switch off', but its capacity and interactivity are limited."

Overall, it could be an even race, he says. There is not a predetermined 'technical' answer and marketing quality is often the deciding factor in such situations.

Digital TV in Europe
% of TV households



Source: Booz Allen and Hamilton analysis, Kagan, Screen Digest

In the long term, Internet or telecoms delivery is another potential platform competing directly, although the indirect competitive threat, in terms of competing for screen time, is already here, says Mr Straw.

Nevertheless, most industry analysts agree that digital TV – delivered by whatever means – has enormous potential. "Digital television will change the way we shop, the way we bank and the way we use information and entertainment," said David Coverdale of Pace, the UK-based electronics group, one of the main suppliers of the set-top boxes required to receive the new satellite, cable and terrestrial services.

However, forecasts about the uptake of digital TV, which is already available in many parts of the world, vary sharply. According to the Digital TV Worldwide 1998 report, prepared by Market Tracking International, the global audience for digital TV is forecast to reach 58.5m by 2002, seven times the estimated 8.4m digital subscribers at present.

"By 2002, Europe will have overtaken *the US to become* the largest digital market," said Adam Thomas, editor of the report. Today, the US has two-thirds of all digital subscribers, but its share will decline to around a quarter over the next four years. Europe will then have 22.4m subscribers, followed by North America (17.2m) and Asia (15.2m).

In contrast, Booz Allen & Hamilton notes that digital television penetration in Europe remains low in comparison with the US and there is much lower optimism about future prospects.

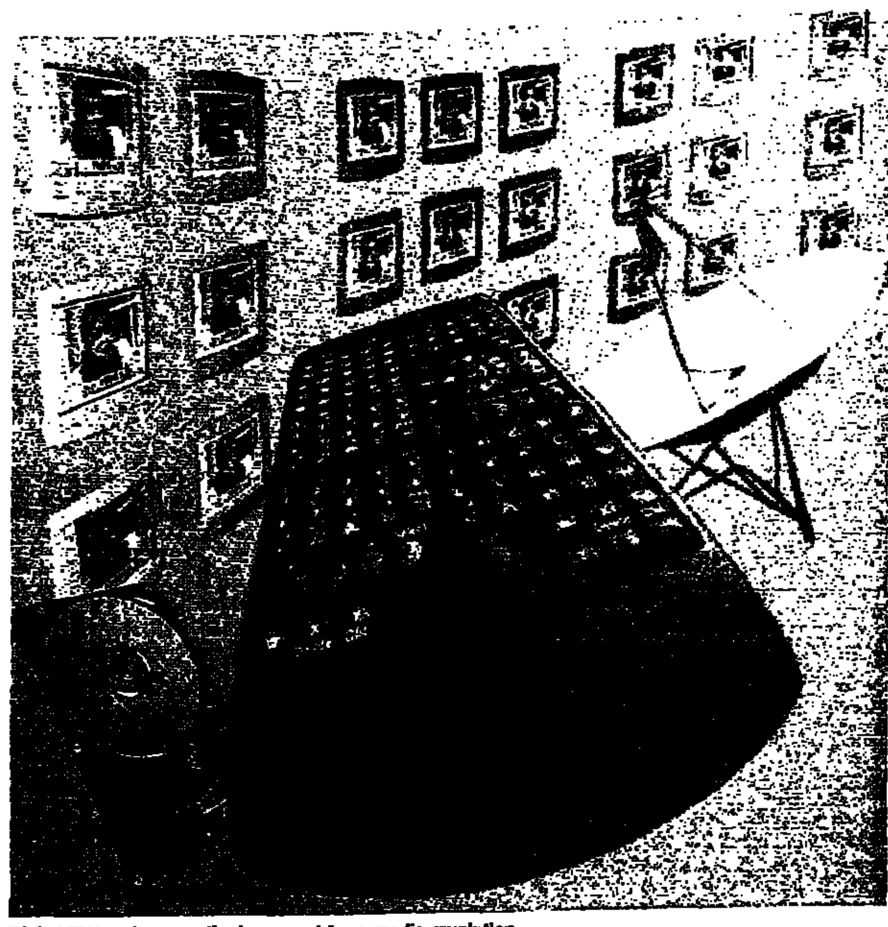
At present growth rates, digital TV will probably only access 7m homes in Europe by the year 2005 – a mere six per cent of the accessible 122m TV homes in Europe. "At this level, it is unlikely that acceptable returns can be achieved given the high upfront outlay needed to create the platform, secure required content and acquire a customer base," warns Booz Allen.

John Clements, chairman of Continental Research, the *new media research specialist*, writing in a recent report from Pace on UK consumer attitudes towards digital television, says digital TV offers a totally new form of TV in the future – "TV that goes beyond the bounds of entertainment into providing personally relevant information and opportunities. Post 2000, it will change the face of TV and the ways in which users interact with their TV sets."

But he adds: "It will not happen overnight – it will be a gradual process. Even at a 'lowish price', Continental Research forecasts that fewer than 1.5m homes will opt for digital terrestrial television by 2002. "That may provide good commercial returns, but does not mark a digital revolution."

Mr Straw of Coopers & Lybrand agrees. "Digital broadcasting is a 'hot' issue.

Turn to page six



Digital TV has become the buzzword for a media revolution

هكذا من الأصل

DIGITAL SATELLITES • By Philip Manchester

Fresh business opportunities

Digital satellite broadcasting opens the way for the business world to exploit the technology with innovative services

Ever since Telstar was launched into earth orbit in the early 1960s, satellites have become an important part of the global telecommunications infrastructures.

Until quite recently, however, the *main use of satellites* has been for long-haul voice traffic and data retransmission. The costs of launching and maintaining satellites – together with the high cost of receiver dishes – has limited their use and appeal. This is set to change dramatically as we enter the 21st century.

Indeed, the falling costs of receiver equipment and the increase in the geographical coverage of satellites has begun to tip the balance in their favour for some applications. There are several reasons for the shift: the increased use of satellite for domestic television signals has created a critical mass in the market which has spread set-up costs; the ease and speed of installation compared to land-based telecoms; and the growth in competition among satellite service providers.

But the two most important factors are the high bandwidth offered by satellite and the ability to use the technology for compressed digital signals. Potentially, digital broadcasting can provide hundreds of channels through a satellite system and opens the door to many innovative services that would be impossible using analogue communications.

These factors also broaden the appeal of satellite broad*casting beyond the tradi*tional domestic TV market to offer opportunities for business to exploit the technology. "What we are seeing is a convergence of communications, computing and broadcast technologies. At *the same time,* we are starting to see a growth of multiple computing devices in the home – embracing the telephone, the television and even the automobile," explains Greg Adkin, marketing manager for consumer products group at chip builder, Intel.

These developments are fuelling an increased demand for bandwidth which satellite technology can help to meet. "When you put a set-top box on a television, you can offer all sorts of *new digital* services – *information services,* education and entertainment, for example," he says.

Intel recently signed a deal with the US Public Broadcast System to combine data and video signals for transmission to set-top boxes. The *service will use* Intel's *Inter*cast technology which allows transmission of data with a TV broadcast signal.

More significantly, Microsoft has announced that Windows 98, the successor to its popular Windows 95 oper*ating environment for Intel*-based PCs will include features to accept TV and data signals simultaneously. Mr Adkin sees the combination *of digital* broadcast technology and set-top boxes as the catalyst for all kinds of new information services.

> Multinational companies can distribute key messages to their global workforce

"By putting the PC at the point where the broadcast signal comes in, you can start to enhance what people *can do with a simple TV.* You can, for example, use a time-shift feature so that you can carry on watching your favourite programme after an interruption. Or you can get other kinds of information alongside the video – say, *on the soccer World Cup* or stocks and shares information."

While today's emphasis for broadcasting via satellite is on the domestic market, the shift to digital signals will also bring benefits to business. There is a strong potential market for digital broadcast satellite technology in business.

Multinational companies, for example, can distribute key messages to their global workforce. They can store broadcast messages on a server for later review or distribute high-quality technical information and even software using broadcast satellite technology, explains Simon Wyatt, business development manager for satellite services at Oracle.

"The point about satellite *is that it is not constricted* by bandwidth limitations like other telecommunications services," says Mr Wyatt. "In Europe, businesses are beginning to look at this potential."

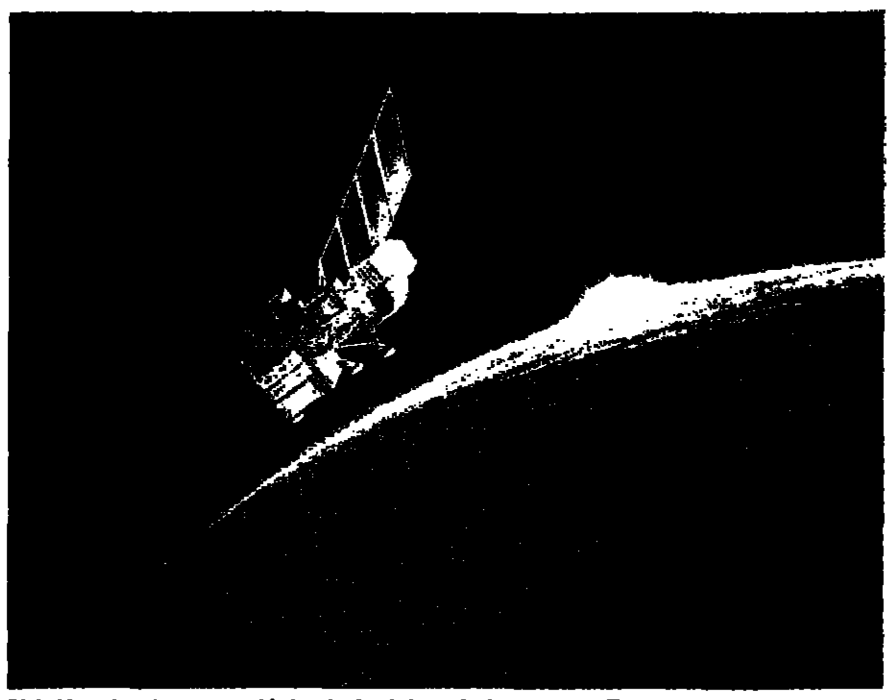
Europe is particularly well-placed to take advan*tage of satellite technology* for digital broadcasting because of de-regulation and well-established standards.

"Digital Video Broadcast (DVB) is a standard across Europe and the competitive environment among telecommunications, cable and satel*lite companies is growing,*" says Mr Wyatt. "They all want to deliver a range of services to consumers and to business."

The main breakthrough is coming with the new generation of satellite technology now coming on stream. "The *introduction of low earth* orbit (Leo) satellites for services such as mobile telephony is going to change things significantly. They cost less to launch and maintain. So, in about five years' time, as costs fall, we will see this technology being used for videoconferencing, mobile telephones and other services," he says.

Leos orbit the earth at a height of about 550 miles compared to the 22,300-mile orbit used by the earlier generation of geosynchronous *satellites. In addition to the* lower cost in launching them, Leos have very short transmission times and need lower power transmitters – although many more are required to give global coverage and the satellites have a *shorter* 'lifespan'.

More importantly Leo satellites offer the possibilities of interactive communications and place them in a stronger position to compete with 'earthbound' technologies such as wire and cable. The first Leo services are expected to be launched in the early part of the next century – and that is when satellite will really begin to compete with traditional telecom services.



Digital broadcasting can provide hundreds of channels through a satellite system

'AIRWAVES' IN CYBERSPACE • By Geoffrey Wheelwright

Upheavals for the broadcasting world

Video streaming allows live programmes be watched on the Internet on dozens of Net TV 'channels' that are entirely unregulated by any national agency

From the moment it arrived, television broadcasting has long been a heavily regulated industry in most countries.

It is no surprise that in revolutions in many smaller countries over the past three decades, troops have fought almost as heavily for control *of the national television* broadcasting centre as they have for the 'presidential palace' or some other symbol of state control.

Equally, government regulatory agencies such as the Federal Communications *Commission (FCC) in the* United States – as well as similar bodies in other countries all over the world – have fought hard to make sure that television serves society.

Broadcasting licences have often been awarded as much on the merit of the content of a proposed television network as on its technological and financial capabilities – particularly in countries where television is seen as a vital tool in *helping to sustain a sense of* national identity.

Suddenly, however, these various august bodies are now having to look a lot harder at their mandate as the advent of 'netcasting' or *television-style programming on the* Internet and the World Wide Web changes the very foundation on which they were established. It is now possible for Internet users with fairly modest personal computers and a fast Internet connection to receive television programs of all kinds through the use of 'video streaming' technology that sends video and audio data live to their screens as it is broadcast.

Video streaming means *that everything from live* news programs to music concerts to awards shows can be watched on the Internet on dozens of Internet TV 'channels' that are entirely unregulated by any national agency.

Viewers in the United States, for example, can watch television news shows from London's ITN or the British Broadcasting Corporation – while Europeans can watch Fox television news from the United States or from the Canadian Broadcasting Corporation.

The quality of these broadcasts does not yet match what can be achieved with a basic colour television set receiving *conventional television* signals from cable, satellite or 'on-air' broadcasting. But *it seems* clear that the pace of change in Web-based video streaming technology *should deliver* TV-quality broadcasts via the Internet *within the next couple of* years.

Meanwhile, the cost of the devices needed to receive those signals is expected to come down – with some even being built-in to television set-top boxes so that viewers can watch Internet-based TV signals. And all of this is happening completely outside the framework of traditional television broadcasting regulators.

According to the man whose company holds the vast majority of the global market for video streaming software, governments are starting to take notice. Rob *Glaser,* founder and chief executive of RealNetworks, has seen television networks the world over use his company's RealVideo software to bring their programming to the Internet and most recently *agreed to serve on a US* presidential panel about the future of digital television.

Mr Glaser says that having spent time recently with officials from the FCC, he thinks the relatively relaxed US attitude toward Internet broadcasting will serve consumers well.

"By and large, the US Federal Communications Commission has done a good job of viewing the Internet as having great communications potential and has taken a really thoughtful approach to the different dynamics of the *Internet,*" he says.

In addition, he suggests that the issue will become even more "interesting" when low-cost television 'set-top' boxes can provide users with the ability to receive Internet television *programming on standard* television sets, rather than requiring them to use computers to do so.

RealNetworks, in which software giant Microsoft holds a 10 per cent minority stake, has been working with the Microsoft subsidiary, WebTV, to look at ways to make this happen.

Mr Glaser suggests that from the point of view of providing a diversity of opinion and programming to consumers, there are few better models than video streaming technology over the Web. He admits, however, that the opposite could happen *if access to* 'video publishing' is restricted.

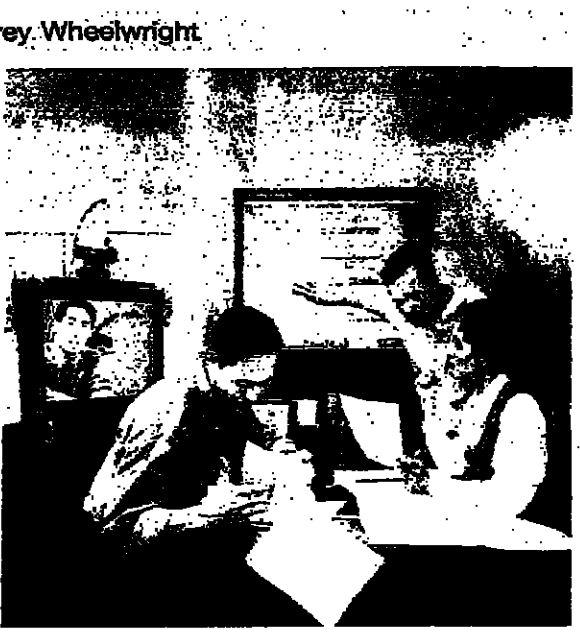
"The challenge is to make sure that economies of scale do not unduly favour those who can take advantage of them," he says. "There is *potential for those with* great economies of scale to swamp those with less developed infrastructure. You need to make sure that you not only have the 'haves' jumping in – and that there is diverse participation in the medium."

☐ Set-top boxes, the key to digital programming: page 6
☐ New services via Internet broadcasting: page 8

DIRECT SATELLITE SERVICES • By Geoffrey Wheelwright

Surge of new corporate applications

Business TV broadcasts via satellite have now become viable for staff training



New satellite-based communications are opening the way for innovative and economical services for the business world

Satellite-based television and telecommunications has been with us for many decades now, largely directed towards delivering broadcast TV signals and voice information from one place to another.

Increasingly, however, satellites are now being called on to deliver digital computer data – and are changing the speed and efficiency of data delivery mechanisms for corporations in the process.

Take, for example, the efforts of IBM to bring data to its global customers via satellite. IBM has deemed this to be such an important task that it has established extension satellite-based solutions within its IBM Global Network services division.

Many businesses – from automobile manufacturers to television companies – are using these solutions for quickly moving vast amounts of rich and complex data (including television-quality digital video) from one place to another.

According to Renaud Regis, satellite services manager for IBM Global Services/Network Services, the power and capacity of these new satellite-based digital data delivery systems is creating the opportunity for an entire range of applications that was just not previously possible.

The VSAT (very small aperture terminal) technolnogy that is increasingly being used to bring data from satellite to computer will change the way that corporations think about using their global networks, he predicts.

"We are now at the point where VSAT can represent an economically viable and feasible alternative for corporations to use worldwide, continent-wide or country-wide," he adds.

"We are steadily moving towards multimedia for new high-bandwidth applications – ones that were previously not feasible or cost-justifiable with past technologies."

One of the previously unjustifiable applications was the creation of internal corporate 'television networks' at large companies. Citing the example of carmaker Ford in the US, Mr Regis suggests that it is now possible – and even attractive – for companies to use an internal, digitally-delivered corporate television broadcast system via satellite as a way to bring training and corporate sales materials to employees.

"More and more companies are getting into this – though not necessarily broadcasting 24 hours a day," he explains.

Ford in the US is using it only for business purposes and training 6,000 dealers, currently running six or seven TV channels a day. "Distance learning is going to be an important application for satellite technology in the years to come – every company has a compelling need for training and retraining their people over – and they need to do this cost-effectively," say Mr Regis.

Meanwhile, IBM's largest client for this kind of application in Europe are French vehicle makers, Peugeot and Citroen.

Three years ago, Citroen signed up to use a VSAT-based system to enhance communications with 4,200 independent automobile dealers in 11 European countries.

NEW MULTIMEDIA MILLENNIUM

Common standards are crucial

From page four:

but it will evolve over time," he says.

Crucially, he argues that the speed of uptake will depend upon the adoption of common standards. As he notes in a earlier report, "standards wars, driven by nationalism and corporate xenophobia, have made industries and broken companies."

The standards issue revolves around what Booz Allen & Hamilton defines as the digital platform – the decoder, conditional access system, subscriber authorisation system and subscriber management system.

European broadcasters, technology groups and regulators took a significant step towards avoiding conflicts when they agreed in September to work together to set open standards for the next generation of set-top boxes, carrying not just digital TV signals but interactive multimedia services and the Internet.

The agreement, reached in Geneva by the steering committee of the Digital Video Broadcasting consortium, built on earlier joint work among the consortium's 200-plus members on setting the European digital transmission standard and brought brings together media, public broadcasting and telecom groups, plus computer giants Microsoft, Intel, Motorola and IBM.

But other standards issues remain, including the choice of conditional access technology, which could delay deployment and cause customer-confusion.

As the Pace reports notes, the arrival of mainstream digital TV will probably involve both successes and failures.

"As with satellite TV, the brave – or at least *some* of the brave – will benefit," says John Clements of Continental Research.

"There will be new 'Murdochs', new 'Gates', but as yet it is early days to say what services they will provide that will take advantage of the technology opportunities opening up in the new millennium."

DIGITAL TERRESTRIAL TV • By Michael Dempsey

Domestic market may offer huge rewards

While viewers will have a vast range of new digital channels, advertisers see the prospect for more precise targeting, with interactive services

Computer chips have taken digital technology way beyond consumer electronics. The convergence of information and communication technologies and so many other industries is now well under way in the most potent entertainment medium of all.

Conventional television signals are transmitted by radio wave in analogue form. Digital TV compresses that signal, cuts out repetition and allows several programmes to be broadcast on the same frequency. It also has the potential for improved picture quality.

The possibility of interactive services, with viewers arranging their individual running order of programmes or chasing up more information on an advertised product, has generated huge commercial interest.

In the UK, British Digital Broadcasting, a joint venture by Granada and Carlton TV, will broadcast to homes without satellite TV aerials. "It's going to be very easy to install. You just buy a set-top box and plug it in. There's no dish and no cable," a spokeswoman explains.

Grundig, Pace, Philips, Nokia, Sony and Toshiba have signed up to manufacture BDB's 'plug in and play' devices.

BDB's research indicates that three out of four UK homes do not have cable or satellite TV links, making 17m homes "virgin for the digital market". Across Europe, 60 per cent of homes do not have multi-channel access via cable or satellite. In the US, this figure is much lower, at 30 per cent.

BDB says its research shows that 63 per cent of the 17m homes in Britain are prepared to pay for more choice on terrestrial lines, giving it a potential domestic market of 11m homes. Despite talk of 100 or more channels under the new regime, BDB regards 30 channels as a manageable choice for the consumer.

The exact way in which TV will adopt a raft of new technologies – and the attitude of potential consumers – is the subject of great debate. The volume of reports and comment on this issue is almost overwhelming: one contributor to this argument is the Cap Gemini Group which this year forecast that the demand for interactive shopping services will propel digital broadcasting to prominence during the next 12 months.

> Broadcasting executives speak of a technology to give them control over 'eyeballs in the home'

While the move to digital services will boost spending by new TV companies on equipment, the advertisers eager to exploit the new medium will be installing call centres and technical support services to back up products sold via expanding menus on offer to viewers.

John Moroney, a telecoms consultant with the high technology analysts, Ovum, points out that the improved signal from digital television "is not a huge issue to UK consumers", who already enjoy a good service from analogue TV. It is the scope of the new service that will attract viewers.

"You will get an almost limitless number of channels. For the advertiser, this means precise targeting, with interactivity making those adverts more effective," says Mr Moroney.

The opportunity of digital TV also brings the danger of diluting the impact of advertising if the segmentation is not effective, according to Mr Moroney.

US-owned Symbionics, a £12.5m company, with offices in Cambridge in the UK, is a design services business that is cashing in on the demand for digital TV products. Its customers include Ericcson and Sony.

Symbionics' interest is in the production of devices that consumers will want to use. Henk Koopmans, the marketing director, argues that simplicity of design is key to making consumers adapt to interactive services: "There are a billion TVs out there, but only 100 million PCs. The new generation of TVs will have the processing power of a Pentium PC, but just presenting the user with a keyboard won't work. You must give them something like a telephone, with around eight keys and a straightforward interface. Anything more complicated won't work."

The business software giant, Oracle, has a 60 per cent holding in a joint venture with Netscape, the Internet software developer, aimed at developing software for the digital TV industry. Network Computing Inc (NCI) is based in California on the same campus as Oracle's world headquarters, but in a separate building, emphasising the dedicated mission of an organisation that will pour programming into set-top boxes.

Stuart Mitchell, Oracle's UK director of business development in telecoms and media, works very closely with NCI. He says the infrastructure development that will accompany the launch of digital channels is impressive. "The market is already worth $100m in Europe – this is real money. The digital broadcasters all need to upgrade their networks and station technology."

Oracle is using its track record in the large commercial database software market to promote applications that contain visual images for the digital channels. Online banking and educational services are potentially lucrative for the software industry, Mr Mitchell says.

"People who want to offer services over the digital network need tools to govern what the customer will see. The object of the toolset we are creating is to make it quicker and easier to make programmes."

Acorn Group has taken the logical step from PC manufacturing to making interactive digital TV set-top boxes. Andy Mee, vice president for business development, is a sceptical voice among the market optimists. He points out that users are happy to work on an interactive level with a PC because of its physical proximity, "a two-foot experience" while TV viewing takes place at greater distance – "a ten foot experience" – and does not easily lend itself to interactive services.

"You will not see a sudden surge in interactive services until the providers can demonstrate a clear benefit," he predicts.

The broad spread of players in this market underlines the size of the rewards in prospect for those who gain a commanding role in home entertainment and business.

The personal computer commands the attention of 'eyeballs in business'; however, in the digital broadcasting world, executives talk of acquiring a technology that will give them control over 'eyeballs in the home'. This domestic market is potentially a huge prize.

SET-TOP BOXES • By Michael Dempsey

The key to digital programming

Set-top boxes will allow viewers to break out of conventional programming and join the Internet without first owning a computer

Patrick Custer is the chief executive of a company that has seen its turnover plunge from $250m to $1.5m inside three years. Most top executives in his position would be extremely anxious. But for Mr Custer, dramatic decline in revenues is part of a plan to redirect the energies of UniView Technologies Corporation into a dynamic emerging market that may dominate the consumer electronics and IT sectors in the next century.

UniView owns Curtis Mathes, a name that was prominent among US TV manufacturers. Until two years ago, it made expensive high-end TVs. But Mr Custer has no nostalgia for this past. "We still own some patents, and being in that business helped us to understand the TV viewer," he says.

Today, Mr Custer's preoccupation is with the world of the set-top box. In theory, the set-top box is a beautifully simple idea: take one device that mixes and matches digital signals from different sources; then connect it to a TV set and allow the viewer to break out of conventional programming and join the Internet without first owning a computer.

The set-top box is the key to opening up digital programming, whether from conventional terrestrial land-lines, cable or satellite. It is the device that the viewer turns to in order to manipulate the vast, and potentially confusing, choice that digital TV offers.

UniView is licensing its set-top box designs to other companies, notably telephone companies. Mr Custer believes that his organisation enjoys an advantage by concentrating on the design and licensing of devices that boast telephony features such as speaker phones. By pushing a button on the remote control, a user can hear a telephone caller over the TV speakers. The familiarity of telephone controls may be a powerful selling tool as companies battle to entice consumers into a new range of entertainment products.

UniView is working with other high-technology players such as Motorola, Lucent Technology and the UK's Acorn.

The set-top box market is truly international. Pace Micro Technology is a £200m UK company that is one of three suppliers appointed by Microsoft. Along with Sun and Oracle, Microsoft bought into the digital TV and set-top box market in 1997.

The potential for expanding digital information into the domestic market while bypassing the conventional PC means these IT giants could not afford to ignore the set-top box.

Andrew Wallace, Pace marketing director, is looking way beyond the UK market. Most of the 1.5m digital set-top boxes priced at up to £500 each that Pace has sold have been destined for South America and Asia.

"In France, the broadcasters are already offering interactive services for sporting events such as the soccer World Cup and cycling's Tour de France," he says.

Pace boxes are promoted through the Canal Plus subscription channel. Mr Wallace recently visited the conference of the US National Association of Broadcasters, where digital TV and Internet access via the TV were key themes. But he is cautious about the immediate prospects for a world of TV viewers logging on to the Internet. "Net access through set-top boxes is not going to be explosive in the coming year. Interactivity needs to be carefully designed," he says.

At Microsoft, 600 of its 13,000 employees now work on services for its WebTV operation, one of the three IT industry TV 'purchases' of 1997. WebTV connects the viewer to the Internet without a PC, with a WebTV terminal incorporating Microsoft software available from $99, plus $22 per month rental including service.

"Our experience to date is that WebTV reaches people that PCs don't," says Judy Gibbons, director of online services at Microsoft UK.

Lining up against Microsoft is Sun Microsystems. Sun acquired Diba, a Silicon Valley start-up operation, in last years' buying spree. At the same time, Oracle purchased the Navio subsidiary of Netscape.

Joe Gillach, a Sun marketing director, was vice president of marketing at Diba. "All three small companies, Diba, Navio and WebTV, were doing the same kind of thing," Mr Gillach recalls. "The summer of buy-outs was a recognition on the part of Sun, Oracle and Microsoft that the concept of an alternative platform in the home was compelling."

Three small operations, with around 100 employees each, had sparked a lot of interest. For Mr Gillach, the big question is pricing. "Can you bring the cost of these devices down to $200?"

Prominent US research group Forrester has spoken of IT companies praying for a new generation of "mouse potatoes" surfing the Internet in the same manner as compulsive TV viewers. But Mr Gillach thinks the set-top box audience will not want to arm itself with computer mice. "Look at a kitchen blender: *that's* the sort of device that consumers will pay for because it's easy to use."

Ease of application is core to the Java programming language from Sun. Aimed at allowing developers to turn around quick new products for consumer devices with computer chips, Java should have a bright future in the world of the set-top box. Chips incorporating Java technology are now being licensed by electronics-related companies as diverse as Korea's LG and IBM.

As a recent recruit to the world of Sun, Mr Gillach takes a relaxed view of Java: "Java chips are just emerging as powerful and cheap devices," he says.

Will they come to power set-top boxes? "This market was never going to mature as fast as people forecast, but then we never claimed it would," he says.

The user-base of this technology is emerging, despite cautionary noises from some analysts. Margaret Fitzgerald, a 76-year-old enthusiast from Massachusetts, has been subscribing to WebTV for the last year. "My children and grandchildren are spread across five states and two continents. I keep in touch with them all via my television screen."

Mrs Fitzgerald sends about ten e-mails a week through her WebTV, disconnecting the system and bringing it with her when she travels to Florida for the winter months.

Mrs Fitzgerald is typical of emerging consumer groups who may be the true champions of the next generation of products from an industry that cut its teeth in a youthful market. Forrester Research speaks of "neo-hearthminders" – parents who will subscribe to the Internet and interactive TV services to boost their children's education.

Spyglass, a $20m Chicago company, supplies search engine software for set-top boxes, allowing the TV set to decode and display information from sources that include the Internet.

David Harris-Evans, European managing director of the company, thinks that it will take more than the presence of big-name IT companies to make the computer and the TV converge. "Oracle and Microsoft have invested vast sums of money. But a consumer market is very, very different from an IT market," he observes. "I'm not saying Internet TV *won't* happen, but it won't be the first thing consumers want."

The set-top box is clearly here to stay. But the uses it will be put to are not as obvious. Grandmothers and dedicated parents will opt for services that apply to their lives. These may not be exactly what the prophets of TV and PC convergence have in mind.

DIGITAL AUDIO BROADCASTING • By Geoffrey Nairn

Coming soon: radio with pictures

As well as offering improved sound quality, digital audio broadcasts will offer text *and images* relating to individual programmes

In an age of digital television and the Internet, radio broadcasters know they must innovate or slowly fade away. But how to change this time-worn medium without alienating the millions of loyal listeners who treat radio as a faithful *companion?*

Digital Audio Broadcasting (Dab) aims to achieve this delicate balancing act, eliminating analogue radio's drawbacks but without abandoning its many advantages, such as low cost, small size and ease of use. Dab is seen by most broadcasters as the future of radio as it makes more efficient use of crowded airwaves and provides CD-quality sound that is noticeably better than an FM analogue broadcast.

The in-studio technology used to edit and produce radio programmes is increasingly digital – and full digital broadcasting, using the Dab standard, is seen as the logical evolution.

"Digital technology is transforming the broadcasting industry," says Glyn Jones, managing editor of BBC Digital Radio.

As well as offering better sound quality, Dab allows broadcasters to transmit text or data relating to the programme, so listeners could read – on a small LCD screen – the plot line for a *radio serial or see artist, title* and composer details for the song currently playing. A more ambitious use would be to broadcast a succession of images from the promotional video accompanying a song.

The limited bandwidth of Dab cannot support moving images so, instead, a 'slide show' approach is used with images changing every ten seconds. The possibilities are endless, broadcasters claim, and pilot broadcasts in several European countries have demonstrated the feasibility of these new services.

However, broadcasters are frustrated by the manufacturers' continuing delays in launching Dab receivers for *the consumer market. "Until* we know what 'box' will be used, it's difficult to design services," says Mr Jones.

Prototype Dab receivers have existed for some years. Grundig, the German manufacturer, has demonstrated a Dab in-car receiver that can be attached to a monochrome or colour display similar to a miniature TV. But such *prototypes are* pricey and manufacturers have traditionally been reluctant to begin volume production of Dab products – which would bring down prices – until the population covered by Dab broadcasts reaches a sufficiently high level.

Mr Jones claims this point has now been reached in several countries. The BBC, which has been running DAB broadcasts since 1995 claims its Dab transmitters can now reach 60 per cent of the UK population – more than 30m people.

In the coming months, Sweden, another Dab pioneer, aims to reach 75 per cent coverage with its national Dab service and 55 *per cent with a regional* service. But the number of people who today hear Dab broadcasts can be counted in hundreds rather than millions because of the lack of affordable Dab receivers for consumers to buy.

The big step forward could come this summer when radio makers such as Grundig, Kenwood, Pioneer and Clarion say they will start volume production of Dab car radios. Sets for the home should not be far behind and Bosch recently demonstrated *a portable Dab radio with* LCD screen similar to a cellular phone.

The in-car market initially offers most interest to Dab manufacturers, as buyers are used to paying steep prices for high-quality in-car entertainment. As well as CD-quality sound, Dab broadcasts are virtually immune from interference and fading. So programmes are not suddenly lost when the car passes through a tunnel or under a power lines.

Another promising Dab product is a plug-in receiver card for PCs. This would allow PC users to listen to the radio whilst working on a spreadsheet and view programme-related data – such as song details or competi*tion rules* – in another window on the screen.

Dab was developed as a European standard and its influence has spread further afield as broadcasters from South Africa to South Korea see in DAB the future of radio; the only important markets that have not committed to the standard are the US and Japan.

One of the principal advantages *of switching* to Dab is that a single frequency – called a "multiplex" – can carry up to six stereo or 12 mono services, or any combination in between. So, six stereo stations that today each require a dedicated FM frequency can be combined on a single digital multiplex.

By moving national and local radio stations to a handful of Dab multiplexes, governments could free frequencies in the crowded FM band and ultimately pull the plug on analogue radio broadcasts – though that is unlikely to happen for a decade or so.

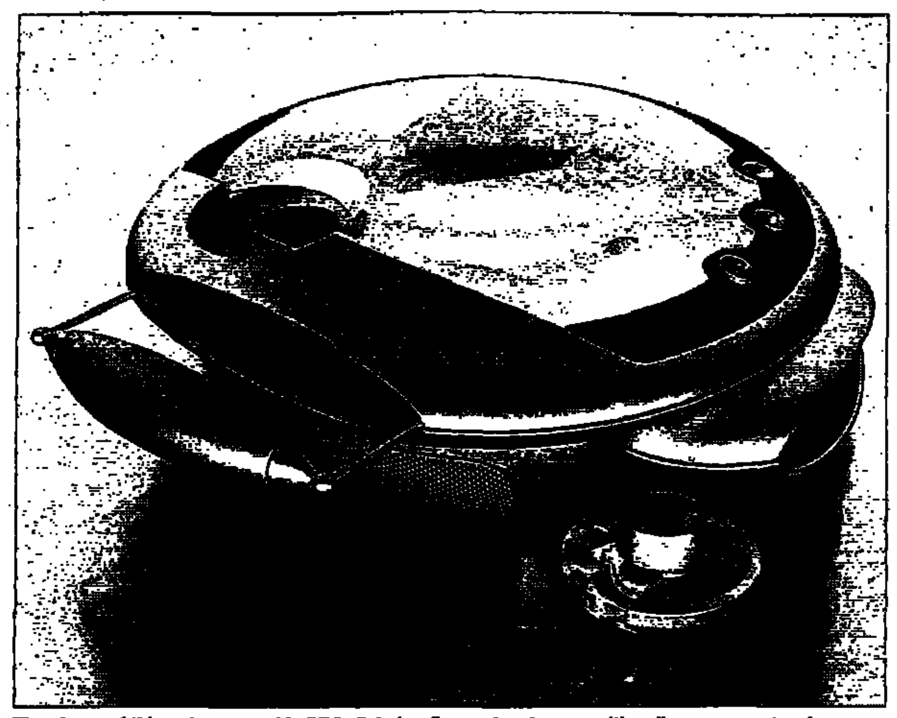
In the UK, two pilot London-only multiplexes are already carrying the broadcasts of a dozen local FM radio stations. But Dab also allows broadcasters to go beyond audio and use some *of the multiplex capacity* to transmit data that is not related to programming.

GWR, an independent radio group in the UK, has performed test Dab broadcasts of financial data and digital video – the quality of the video is similar to that achieved over the Internet.

The World Dab Forum, an umbrella organisation set up to promote the standard, carried out a consumer study last year that showed 37 per cent of households in Europe would be "very interested" in buying digital radios, which amounts to around 33m families.

The respondents were also prepared to pay substantially more for receivers with Dab facilities – up to 50 *per cent more for car radios* and hi-fi systems, and around twice as much for portables. But until products are widely available in stores, the industry does not know whether these intentions will translate into much-needed sales. "The next step is in the manufacturers' hands," says Mr Jones.

> The in-car radio market offers most interest to the makers of digital audio broadcasting systems



The shape of things to come: this BBC digital radio receiver has a multimedia screen on top for displaying text and images. The BBC worked with the IDEO design consultancy to produce this concept radio. Also featured here is a mini speaker, linked to the receiver by an infra red signal

Broadband issues: Page 8

HIGH QUALITY DIGITAL BROADCASTING

Pioneer in high-end digital TV market

While many digital broadcasting players make tools for transmitting to mass audiences, ECI Telecom, an Israeli telecommunications manufacturer, is carving out a role in the smaller, high end of the market for professional television production.

Last year, ECI launched Hi-TV, a digital broadcasting system designed to handle top quality television and video. The system broadens the potential of broadband terrestrial telecom networks. These networks carry thousands of times more data per *second than regular net*works.

Hi-TV was named transmission system of the year last September by International Broadcasting Magazine, an industry publication. In April, MCI of the US used it for the first ever live digital High Definition Television [HDTV] broadcast of a baseball game between the Texas Rangers and the Chicago White Sox.

With Hi-TV, ECI hopes to create an alternative to satellite broadcasting of live sporting events from stadium to studio. They are also targeting television, advertising and film industry professionals, who must work with top quality material during production. Hi-TV could put an end to the cumbersome and costly practice of sending film and video back and forth by courier from one studio to another.

"Introducing telecommunications to the television production industry could have the same impact on the industry as it has had on banking, insurance or mak*ing motorcars," says* Jonathan Cramer, managing director of ECI's broadband multiplexer business unit.

The facility that makes Hi-TV possible is the proliferation of easily accessible broadband networks. As in all data communications, the key to success is compression.

However, smooth transmission of high quality material, says Cramer, poses a different challenge than broadcasting to a mass audience. This is because for a mass audience, which will only watch a program once, broadcasters are willing to sacrifice quality by compressing the broadcast tightly. Devices that handle this end of the broadcast involve relatively low bit rates.

Hi-TV is finding favour in sports broadcasting. Pictured here are Brazilian players, winners of the 1994 soccer World Cup. The next World Cup will be this June – and the June 2 FT-IT Review will carry a special focus on the impact of IT in sport AP

Quality level

Transmitting for professionals demands high quality throughout the process, however. "When you are going to go through successive chains of editing – compressing, decompressing and recompressing – you lose quality," says Mr Cramer. "After about eight times, it looks awful."

Devices for high quality broadcasting must therefore *be capable of handling high* bit rates, he explains, because only light compression is tolerable.

When big 'chunks' of television travel over a shared network, however, additional problems emerge. For example, when lines become clogged with other data, digital TV broadcasts can 'get the jitters' [industry jargon], throwing the broadcast out of synch.

ECI designed its system with quirks like this in mind, drawing on its experience in the telecoms market. Indeed, Hi-TVs technology is an adaptation of DCME, telephony compression products in which ECI is a world market leader.

Industry analysts estimate the nascent market for high-end digital broadcasting equipment could be worth between \$200m and \$500m a year. Hi-TV's main competition comes from Sony, Lucent Technologies of the US, and Nortel of Canada. ECI's edge is confirmed by MCI, which along with seven other companies, is participating in a three-year, \$60m HDTV project backed by the US government that will end this September.

Fred Huffman, senior engineer at MCI, says ECI is cheaper and faster than the *competition. Before choosing* ECI, proposals were considered from manufacturers of both telecoms and broadcasting equipment. "When you looked beneath the surface," says Mr Huffman, "ECI knew more about the television world than the broadcast equipment manufacturers knew about the telecoms world."

Avi Machlis
in Tel Aviv

BROADBAND TECHNOLOGIES • By Tom Foremski

Aiming for faster Internet access

Each country has its own type of communications infrastructure which will determine which broadband technology will be dominant

US telephone and cable TV companies are gearing up to offer tens of millions of customers faster Internet access through inexpensive cable and telephone line modems thanks to advances in broadband technologies.

Leading US computer companies are helping to promote broadband technologies as they eye opportunities for software and hardware sales. And Internet firms are preparing new types of web-based content such as digital television and CD-quality music piped into customer's homes through faster Internet connections.

There are two main US initiatives, with one camp pushing cable TV modems while a rival camp is promoting ADSL (Asymetric Digital Subscriber Line) technologies which operate over regular telephone lines.

Until recently, most industry observers were predicting that cable modems would win the battle against ADSL modems. But advances in ADSL technology, called 'splitterless ADSL', have changed those forecasts. The advantage of splitterless ADSL is that there is no need for a separate line 'splitter' separating voice and data calls on the telephone line.

"Splitterless ADSL represents considerable cost-savings for phone companies, otherwise they would have to send technicians to every home to install ADSL and they would need more expensive equipment at the switching offices," says Will Strauss, president of US market research firm, Forward Concepts.

Splitterless ADSL, also called DSL Lite or Consumer DSL (CDSL), offers bandwidth of up to 1.5 Mbits per second, more than 50 times faster than current 56 Kbit modems. Although cable modems potentially offer speeds of 4 Mbits and more, that bandwidth is usually shared between many users on the same cable circuit.

Splitterless ADSL has received the heavyweight backing of Microsoft, Intel and Compaq Computer. The three companies have set up a consortium called the Universal ADSL Working Group and have persuaded GTE, Ameritech, BellSouth, Ameritech, SBS Communications, and US West, four of the five largest regional US telephone companies to support the technology. The goal is to offer standard Consumer DSL modems for about the same price as a traditional modem, and one that they can buy at any computer store.

Forward Concepts had originally predicted that cable TV-based modems would win the lion's share of the market, compared with ADSL. In a report published late last year, Forward estimated that by the year 2002, there would be about 7m US users of cable modems, four times the number of ADSL modem users. But Mr Strauss concedes that the gap between the two will be much narrower if CDSL modems become widely available.

The Universal ADSL Working Group has adopted DSL technology developed by US firm Aware using a modulation technique called Discrete Multi Tone. CDSL offers downstream speeds of between 512 Kbits to 1.5 Mbits, and 128 Kbits and 384 Kbit per second speeds upstream, roughly equivalent to a T1 line.

"Our DSL Lite technology clearly moves DSL beyond the realm of a telecommunications transmission system toward that of a PC modem," said Jim Bender, CEO of Aware.

The involvement of Intel, Microsoft and Compaq in sponsoring broadband communications technologies is self-serving. Intel wants to ensure that there will be demand for high performance microprocessors, and a technology such as CDSL will provide a need for more powerful PCs, which in turn will benefit Compaq, the leading vendor of PCs.

Microsoft benefits from every PC sold and it is also making a big push into online content delivery. To really exploit the potential of that, Microsoft needs bigger data pipes into the home, hence its support for cable modems through its $1bn investment in the US cable TV company, Comcast, and CDSL.

"If there is any area that I have a little concern about – in proceeding fast enough – it is communications technology, being able to connect up these machines at very fast speeds," said Microsoft chairman Bill Gates at a conference for investment bankers in San Francisco.

There are still significant technical challenges to be dealt with for both CDSL and cable TV modems. For example, cable TV modems are sensitive to interference picked up through leaks in cables, which can then be amplified within the network.

The success of these broadband technologies also depends on how aggressively telephone and cable companies move. US telephone companies' commitment to faster Internet access through ISDN, has been disappointing, showing little enthusiasm despite strong customer demand.

Similarly, US cable TV companies have spoken about adding fast Internet access services but have been slow to exploit the potential business opportunities for cable modems.

"With the involvement of Intel, Microsoft and Compaq, the phone companies are being pushed to be more aggressive," points out Mr Strauss. "The phone companies have been holding out because of the lack of standards, but this is now changing."

Over the short term, cable modems are expected to generate an early lead over ADSL, because cable modem industry standards have already been developed by the Multimedia Cable Network System consortium.

"The business model for cable modems is much more attractive," says Mike Valiant, product manager at network equipment firm 3Com. "Basically, for a cable company to offer cable modem service it needs to deploy head-end equipment which enables a high speed downstream service to be offered to its customers. This equipment is relatively low cost as cable modems work on the basis that the infrastructure is shared by many hundreds of users."

Bill Gates, Microsoft chairman: making a big push into online content delivery

Each country has its own type of communications infrastructure which will determine which broadband technology will be dominant, says Mr Valiant. For example, in the UK, only about 16 per cent of homes receive TV programmes through cable, compared to about 95 per cent in Belgium. In Finland, companies can rent telephone lines from telecom companies and offer ADSL services, but in the UK, British Telecom does not allow these kinds of services from third parties.

The key word is competition: if there are companies in each country providing a variety of either cable or ADSL-based services, consumers and businesses will benefit from fast Internet access at low prices.

FT web site wins high ranking

FT.com, the Financial Times web site, has become the most popular European-based news web site, according to the latest Hot 100 rankings. It was already the most popular non-US based finance site.

Following its redesign four weeks ago, FT.com jumped 14 places to number 15 in the April listings of news sites. That took it for the first time above rivals such as the Electronic Telegraph and the (London) Times.

The site has doubled the number of page views that it serves in the past four weeks. "A key aim of the redesign was to make it easier for our users to move around the site and discover more of both the quality and quantity of what's there," says Paul Maidment, editor of FT.com. The rankings are compiled by Web21, a Californian online company that counts web traffic. Rankings are dominated by US sites, led by CNN, USA Today and ABC News. Apart from FT.com, only two other non-US sites, The Age and The Sydney Morning Herald, make the top 15 news sites for the month.

□ *The Hot 100 rankings: http://www.hot100.com/*

INTERNET BROADCASTS

Webcasting heralds many new services

TV and film companies are taking the Internet very seriously, reports Joia Shillingford

Streaming audio and video down the Internet promises to deliver a wide range of new services to both businesses and consumers.

"Audio and video are already happening on the Internet," says Paul Ayres, European managing director of the US company, RealNetworks, "and as time goes on, webcasting will become increasingly widespread."

RealNetworks, which produces audio and video software for the Internet, is already working in the UK with companies such as ITN, the BBC, Capital Radio and the British Film Institute. "ITN regularly broadcasts news headlines over the Net and the BBC puts out the entire contents of the *Nine O'Clock News*," says Mr Ayres.

UK radio stations Virgin Radio and Classic FM are on air and on the Net at the same time. And, in the US, TV channels, such as CNN and Fox News, broadcast live on the Net at the same time as they broadcast to TV viewers.

A number of companies are also broadcasting training videos, the thoughts of the chief executive, or public shareholders' meetings over their company intranet (or private Internet). For example, the aircraft company, Boeing and technology companies Bay Networks and Sybase, all broadcast video over their intranets.

The research company Gartner Group webcasts (or broadcasts over the Net) to selected audiences. Last month, it webcast video and audio from its conference, 'Gartner Group Predicts: The IT Marketplace', in San Diego, to customers world wide.

Benefits

"Traditional broadcasting is linear," says Ayres. "The Net is interactive. It lets users select the stories they want to watch, in the order they want to watch them.

"They can also mix and match, getting their socio-political news from the BBC and their world news from CNN. Users can get the TV and radio stations they want from anywhere. An expatriate Englishman could watch the *Nine O'Clock News* via the Net from Nairobi.

"The Net increases the TV and radio footprint," says Mr Ayres. "Longer-term, this will command a fee."

To receive audio and video information over the Internet, a user needs a multimedia PC with speakers, Internet browser software and audio/video software. Ideally, the PC should have at least an Intel Pentium chip inside. The good news is that the audio and video software, such as RealNetworks' RealPlayer can be downloaded free from the Internet. Once downloaded, the software sits in the user's internet browser.

Then, when the user connects to the Internet to watch a programme, a channel is created between the user's PC and the broadcaster's server computer. This is known as streaming video. Instead of a user downloading all the images to a hard disk and then watching them – which would be slow and require a huge disk – the user watches them stream past.

The images are compressed, sent over the Internet from the broadcaster's computer, then decompressed at the user's end, otherwise they would be bulky to transmit. The quality of image that can be received using streaming video varies.

A user with a modem (a communications device) operating at 28,800 bits per second, can receive audio and video at 6-8 frames a second. This compares with 28 frames a second for commercial television and 30 frames a second for the cinema.

"The quality depends on the type of image being received," says Mr Ayres. "With news, the background changes little and you can get something eminently watchable."

Users might, however, find it disappointing after conventional TV. The advent of a faster modem standard X2, giving 56 kilobits a second, will provide a frame rate approaching 12-15 frames a second. Or with higher bandwidth technologies, 30 frames a second.

Higher bandwidth technologies include T1 lines (in the US), cable modems (for use over cable TV networks) and XDSL, a technology for providing higher capacity over standard analogue phone lines.

The biggest supplier of audio and video software to Internet users is RealNetworks. Mr Ayres says 40m copies of its software (some just for audio) have been downloaded from its *www.real.com* site. Of these, 12-15m copies are of its latest video software.

RealNetworks recently acquired Vivo software, another leading Internet video company. It is also in, what it calls "co-opetition" with Microsoft.

"Microsoft has bought the rights to our technology and is embedding it in a product of their own," he adds.

In the future, users will even watch films over the Internet, suggests Mr Ayres.

When the company

Turn to facing page

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DIGITAL VERSATILE DISK INDUSTRY • By Geoffrey Nairn

Market fears an outbreak of 'format wars'

Sales are hindered by consumers' uncertainty over two rival formats for DVDs in the PC market

The launch of Microsoft's Windows 98 operating system is awaited by many, but perhaps most eagerly by the digital versatile disk industry, which hopes a new generation of Windows 98-equipped PCs will stimulate sluggish sales of DVD drives and disks.

Windows 98 is Microsoft's first operating system optimised to work with DVD and the industry hope the arrival of Windows 98 will encourage PC users to upgrade to new computers fitted with DVD drives.

Some PC makers – such as IBM with its Aptiva range – have offered DVD drives on selected models since 1997, but the arrival of Windows 98 could see DVD drives rapidly supplant the traditional CD-Rom drive as a standard device on new PCs. Compaq says 70 per cent of its new PCs will come with a DVD drive by the end of this year.

"I take that figure with a pinch of salt," says Ted Pine, president of Infotech, a US market research company. Analysts have grown accustomed to the over-optimistic forecasts of the DVD industry and note that three years after first being unveiled, DVD is still struggling to make an impact in the PC and consumer electronics markets.

Infotech says only 300,000 DVD drives for PCs were sold last year compared with initial forecasts of twice that figure.

In the consumer market, where DVD-video disks are being promoted as a replacement for pre-recorded video tapes, the disappointment has been even greater, given the industry's high hopes of a sales bonanza in the run-up to Christmas 1997.

According to Infotech, just 230,000 stand-alone DVD-video players were sold in 1997 in the US. "DVD-video did pretty well, but it failed to live up to the most hyped expectations," says Mr Pine.

A DVD-video disk can be played on a stand-alone DVD-video player or on a PC fitted with DVD drive. The latter can also load software from DVD disks formatted to the DVD-Rom standard.

In an effort to spur consumer awareness of DVD-video, Warner Home Video announced last month it would allow video stores to rent out players so that consumers could experience the superior picture quality and sound claimed for DVD-video. Consumers are increasingly reluctant to buy untried technologies, fearing another outbreak of the "format wars" that have plagued the consumer electronics industry.

In the case of DVD-video, there is already a rival incompatible technology, Divx. This is a pay-per-view system developed by Circuit City, the largest consumer electronics chain in the US, and backed by several film studios which prefer Divx to DVD-video because of its ability to deliver a steady royalty stream.

Each time a Divx disk is played, the Divx player dials a central database and deducts the consumer's account with the appropriate rental.

"We remain especially excited about the possibilities for Divx," says Richard Sharp, Circuit City's chairman and chief executive officer. Analysts are not so sure. "Divx has received an inordinate amount of attention in the industry but it has not yet made its case to the public," says Mr Pine of Infotech.

Industry experts say the uncertainty caused by these two rival video disk formats in the consumer market is hindering DVD's chances in the PC market. If few DVD-video titles are available because of poor sales of DVD-video players, then PC users will see less reason to pay the premium for a new PC with a DVD drive, instead of a conventional CD drive. Windows 98 will still be available on CD-Rom, so a DVD drive is not essential to use the new operating system.

Given the incompatibility problems that have plagued early DVD drives, many PC buyers may prefer to continue using established CD-Rom technology.

The same issue affects the makers of "jukebox" products that traditionally use CD-Rom drives. One such is Kodak Business Imaging Systems whose latest jukebox uses two CD-Rom drives with 54 CD slots to manage 35.1 gigabits of information. Colin Cooke, European marketing manager, claims the product is "DVD ready", meaning it is compatible with DVD drives, even though Kodak will continue to ship it with CD drives.

Avantis, a UK company that makes CD file servers, has likewise chosen to continue fitting CD drives to its products and offer a DVD drive as an £500 option that attaches externally.

Trevor Duplock, marketing manager, says DVD will undoubtedly be successful in the mass storage applications – one DVD-Rom can hold the data of 7 CD-Roms – but Avantis is reluctant to switch to DVD drives, fearing incompatibility problems between DVD disks and drives from different manufacturers.

The arrival of rewritable CDs (CD-RW) further complicates the choice facing storage makers and PC users. The DVD standard includes a rewritable format, called DVD-Ram, that aims to address the big criticism of CD-Rom – the stored data can only be read; it cannot be changed. However, DVD-Ram is not yet perfected and to complicate things further, Sony and Philips are promoting a rival rewritable DVD format that is incompatible with DVD-Ram.

CD-RW, by contrast, is a stable technology that is commercially available and prices of CD-RW drives have fallen dramatically. "'Read only' has always been considered a major drawback for CD technology," says Wolfgang Schlichting, research manager for removable storage at market research firm, IDC.

"Now that these limitations have been addressed, users must decide whether to move to DVD and its higher capacity, or stick with CD and its low-cost ability to record."

Infotech predicts more than 6.5m DVD drives will be sold this year, but Mr Pine admits there is a high degree of uncertainty in such predictions and a lot hinges on the success of Windows 98. "The onus is ultimately on Microsoft to deliver Windows 98 in timely fashion," he concludes.

Panasonic's DVD 'home theatre' system uses a 12cm disc that holds a two-hour feature film: although the DVD looks like a CD, it is capable of producing cinema-quality sound and pictures

INTERNET BROADCASTS

Big interest from film companies

From facing page:

launched RealVideo just over a year ago, it asked film director Spike Lee to make three films optimised for the Internet. The films, available on its Web site, have been watched several thousand times.

Today, there are restrictions on the way films can be viewed online, says Mr Ayres. As well as bandwidth restrictions, video can only be viewed in a quarter of the screen unless Microsoft's Direct X software is used.

But the restrictions will be overcome, he believes. "TV and film companies are taking the Internet very seriously," he says. "They see it as augmenting what they do. Right now, a number of film companies are very bullish about advertising on the Net and are using it to show clips and as part of the marketing mix to promote what they do."

Nethold in the Netherlands, which supplies footage to leading satellite and cable operators in Europe has set up an extranet (a closed user group on the internet). This enables authorised operators to download video clips from their site, which are used to produce electronic programme guides. Thus, TV operators can market their programmes quickly on their own services or via the internet.

Nick Ayre of computer services company, Cap Gemini, says: "Nethold cuts out a huge amount of effort and cost in not having to distribute video tapes around Europe. It can also monitor who is using what material."

Paul Ayres believes the Internet could open up new markets for broadcasters. "ITN does archive some of its broadcasts and make them available free on the Internet," he says. "But broadcasters are starting to realise that 'old news' is a valuable resource you can charge for."

BRITISH COMPUTER SOCIETY AWARD

The top team will be announced next week

The winner of the 1998 Information Systems Management Award, organised by the professional body, the British Computer Society, in association with the Financial Times, will be announced at a dinner in London on May 14.

The speaker will be the deputy chairman of Marks and Spencer, Keith Oates.

Individual tickets are £65 and corporate tables are available at £650. The event is at the Landmark Hotel, opposite London's Marylebone Station.

The awards recognise achievement, improvement and innovation in information systems management in the UK. The judges look in particular for impact on business performance, the relationship with end-users, and the management of development or operations or both. The award typically goes to a team, rather than an individual.

Past winners have included Ford, Tesco, P&O Ferries, Eagle Star Life, London Ambulance Service and Cheshire County Council. The sponsors are Blue Circle Industries, Deloitte & Touche, KPMG Impact, Unisys, and the Woolwich bank and financial services group.

☐ *Tickets can be booked through Karen O'Sullivan on 01793 417434 and at kosullivan@bcs.org.uk.*

Fast-changing IT skills prove difficult to develop

Employees with computer science degrees do not necessarily make the best IT staff, reports **Philip Manchester**

FT IT

IT in training

Here and on the facing page, FT writers examine ways in which the IT industry and other sectors are attempting to ease the IT skills' crisis with computer-based training

Going online: Royal Mail sorters in London. IT training is a necessity now in every large business

It look like double trouble: the combination of the looming deadline for the year 2000 and the Millennium 'bomb' computer date problem, plus the prospect of European Monetary Union (Emu) and the birth of the euro currency, masks two long-running problems in information technology: how can businesses ensure that they have the right balance of IT skills and how can they identify the skills they need?

The recent belated call by the UK's prime minister Tony Blair to fix the year 2000 computer date problem has also focused attention on the increasing shortage of IT skills.

Part of the difficulty lies in the fast-moving nature of the IT industry. Skills that are relevant today could be obsolete in a few months' time because the technology has moved on. As a result, academic institutions – the most obvious primary source of skills development – find it difficult to keep their syllabuses in line with advances in technology and IT-based qualifications have always been difficult to define.

Graduates

Most IT companies, for example, do not place great value on computer science degrees as a measure of IT skills potential when recruiting at graduate level.

"I don't think there is much evidence that people with a computer science degree will make good IT people. Indeed, we have found that some of our best people have degrees in unrelated subjects," notes Vance Kearney, UK human resources director at database software giant Oracle.

"There is no doubt that the disciplines of a degree *do* help – but it does not have to be a computer science degree. The trick is to take people who have the right approach to thinking about IT and teaching them how to apply this," echoes Jim McKenna, human resources director at software consultant Logica.

Nevertheless, the formal education systems is still seen as the best place to develop basic IT skills. A recent NOP survey in the UK sponsored by Microsoft, for example, showed that most people (78 per cent) see the education system as having the most important role to play in developing IT skills. But the same survey also showed that almost half (45 per cent) of IT contractors acquired new skills 'on the job' rather than through formal training courses.

The survey has prompted Microsoft to promote industry-specific course modules within the full-time education system.

"The IT industry has always had a problem when it comes to base qualifications – unlike, say, law or accountancy where there is a tradition of qualifications and continued professional development," explains Debbie Walsh, IT skills development manager at Microsoft UK.

"We have found that universities are keen to offer course modules that cultivate specific skills. They want to attract undergraduates who are beginning to see that you need more than a degree to get into the IT industry," she adds.

"Microsoft has pioneered arrangements with several UK universities, including Napier University, and the universities of Wolverhampton and Brighton – to develop course modules based on its Microsoft Certified Professional (MCP) qualifications."

"Our emphasis has been mainly on the newer universities – the former polytechnics. But we are beginning to see interest from the older established institutions," says Ms Walsh.

The MCP qualifications are, of course, geared to Microsoft's own product range such as the Windows NT operating system. But Ms Walsh is keen to point out that these product-oriented qualifications are offered as additional modules rather than being incorporated in the formal degree qualification.

"At Napier, the MCP course is offered as an extra module. Other universities offer it as an extra-mural course. And Plymouth, for example, offers students a post graduate one-year conversion course to help students understand the commercial aspects of IT. Our remit has expanded to cover general promotion of technology awareness."

Others are more sceptical about Microsoft's intentions. "I have some reservations about product-oriented courses within the education system. If it is a genuine desire to improve the skill pool, that's fine. But it could be viewed as another way of vertically integrating their monopoly," notes Mr Kearney of Oracle.

"I don't really like the idea of developing course modules based on commercial products within the context of a general course on IT," says Mr McKenna of Logica.

Ms Walsh of Microsoft accepts this argument – but places it in the wider context of the perennial argument about the value of academic qualifications compared to vocational qualifications. "There is a place for both and we are talking to the UK's department of education and employment about how we can find the right balance and get a good broad base of all kinds of skills," she says.

IT itself may of course provide part of the answer. Innovative ways of delivering educational material – both for academic and vocational qualifications – are emerging from the training industry. The Internet and multimedia CD-Rom, for example, provide new ways for individuals to develop their skills and increase their value to their employers.

Ms Walsh of Microsoft suggests that this will help businesses keep up their staff training obligations without incurring extra costs: "One of the problems is that training budgets are often the first to be cut.

"Along with many IT companies, we are experimenting with outsourcing training and staff development functions to keep costs down and you can see evidence that this is working. But you need the right support structures and technologies to make this work."

One thing is clear: even with the emergence of product-based qualifications such as those promoted by Microsoft, IT skills are always going to be difficult to develop – both within the formal education system and in the front-line of commercial IT. Technology developments in computer-based training (CBT) will help, but they can never provide a complete solution.

The NOP/Microsoft survey suggests that the real key lies in providing a good grounding in IT at secondary school or high school level. This demands a significant investment that seems unlikely against a background of tightening education budgets.

EMPLOYEE EMPOWERMENT • By Philip Manchester

Advent of 'the learning company'

With the help of technology, the development of skills in the business world is increasingly tied to commercial goals

Today's successful company is a 'learning company'. Increasingly, this means that companies are handing responsibility for career and skills development to individual employees. New learning technologies – computer-based training (CBT), the Internet and CD-Rom – are central to this change and IT companies are, unsurprisingly, in the forefront of what amounts to a revolution in learning.

"Technology is undoubtedly a key factor – but then, so is the cultural environment which gives employees the encouragement and opportunity to improve their skills," says Richard Straub, IBM Europe's newly-appointed director of learning.

"We know we have to take a more integrated approach to training, skills development and professional development. It is a challenge to everyone in IT because of the huge demands of the market," he adds.

Along with many IT companies, IBM has recognised that its future depends upon a continuously evolving workforce that can cope with the increasing demand for skills at all levels.

The company has introduced training programmes that use technologies such as the World Wide Web both to provide access to training material and monitor the progress of employees.

"We had training programmes before, of course. But the Internet has made it much easier to administrate," says Mr Straub. "Our 'Compass for Learning' programme, for example, gives employees access to information that relates directly to the job they are doing. They can look at industry-specific education programmes and link through to other training materials."

Database software giant Oracle is taking a similar approach: "We are in the process of building what we call a 'virtual campus'. Staff can go in and assess their current capabilities and see where they need to develop their skills," says Vance Kearney, human resources director at Oracle UK.

Further options for employees

Staff at the software company can then go for one or more options – such as ordering a training video or CD-Rom, booking into an online course or even sessions of instructor-led training, according to their needs," he adds. Oracle operates a scheme where employees can book their own training on the network. Requests are channelled to senior managers for 'passive' approval. The manager only need act if the course is not approved.

Oracle sees the online approach as particularly suited to the way the market is developing – especially as the demand for skills moves closer to business knowledge, rather than purely technical knowledge.

"We see the action in future lying very much in the area of packaged software solutions. So we want people who are, for example, skilled in accountancy but need some technical training. We want their understanding of the business and the way financial systems work – then we can give the opportunity to get the technical training they need," says Mr Kearney.

The shift to online training is, however, seen as an addition to traditional approaches. Oracle sees new methods such as Internet-based learning as working best when combined with traditional classroom learning. "You have to combine the new technology with existing training to get the best out of all of them. So we

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TRAINING VIA THE INTERNET • By John Kavanagh

Early days yet for online courses

Critics claim that suppliers have seized upon a new technology too quickly and enthusiastically

When two leading companies revise their ambitions for training over the Internet it is clear that things are not going as expected.

Oracle launched its Internet service 18 months ago with 75 courses from four suppliers and predictions that the number would get into four figures in 1997. The total actually reached 400.

Meanwhile, Microsoft has acted to put new life into its Microsoft Online Institute with a scheme to encourage training centres and course developers to offer their services and products online. Oracle's experience suggests that user companies are not yet sure about this new way of delivering training, which is raising questions about the very purpose of traditional courses: Oracle says companies are still tending to take small subscriptions to try it out.

Training via the Internet ranges from accessing computer-based self-study courses at a supplier's Web site, to complete electronic classrooms: these are typically a mixture of self-study and live class discussion led by a teacher, either through Internet chat facilities or indirectly through electronic bulletin boards which participants can access at leisure and add their own comments.

Some companies are developing these ideas further, bringing in voice communication to make discussion simpler. These online classes typically use the Web to present charts and other visual material, plus telephone conference calls.

The immediate benefit outlined for such courses is that people do not have to disrupt their work to go away on a course, paying three-figure sums per day, plus accommodation and travel: online courses are far cheaper. As with any courses including a large self-study element, people can study when it suits them, and wherever they are in the world, fitting training around their work commitments.

In addition, the versatility of computers arguably makes online training more attractive than traditional self-study materials.

Mike Harbon, training and development manager at the telecoms group AT&T, endorses this last point: when the company went live with a service from training supplier NETg last autumn, 5,000 staff looked at what was available in their own time over the first weekend.

"If you give people the opportunity to learn – the right environment, the right programmes, the right times – they will gladly undertake training," he says.

He cites the recent case of an AT&T engineer waiting for a flight who retrieved a course module via the Internet and did an hour's training in an airport departure lounge.

This example highlights another benefit claimed for courses provided through the Internet, an advantage which starts to challenge traditional thinking about training.

Users and suppliers are looking at this new method as a way of getting "just-in-time" training, learning the features of a software product individually just before they are used, rather than all at once in a classroom and then forgotten.

'Bite-sized chunks of learning'

This point is underlined by Paul Pestell, a northern Europe training manager at Ford Motor Company, the first user of an online service developed by BT and Futuremedia.

He refers to the benefit of "bite-sized chunks of manageable learning", and the fact that staff can "dip in and out of different course sections, from advice to reference material and back to training".

With a system like this, "you can do only the parts you need, and whenever you want," he says.

But despite the recent introduction of training over the Internet by the such companies as AT&T and Ford, overall acceptance has been patchy so far. Some companies believe this could be because suppliers have grabbed a new technology too quickly and too enthusiastically.

"At present, few of those offering training on the Net are getting it right," says Gillian Brand, a manager at Learning Tree International, which provides both classroom and computer-based courses. "But as soon as the technologies mature and more people come up with exciting ways to deliver training over the Net it will certainly take off."

Phil Lawman, UK general manager of Hewlett-Packard Education Services, agrees. This month, the company's training business is making a late entry into the Internet, and says that by delaying its launch it has put together the best combination of classroom, Internet and self-study training.

"Many suppliers have jumped into new technology and are forcing clients into it too, for example by promoting the cost savings," Mr Lawman says. "We mainly run technical courses, and for this you need hands-on training, which demands classroom sessions.

"We're proposing that people do some self-study, typically through the Web or computer-based training, before a classroom course. They thus do part of the course at their convenience and we can reduce a five-day course, say, to three days, while still providing the hands-on element."

The company will also encourage follow-up learning through the Internet, combining slides on the Web and telephone conference calls, to enable people to raise questions based on their experience back at the office.

While suppliers review their offerings and consider the best ways of using the Internet, a technical issue still has to be resolved which could increase acceptance, according to Oracle Education's global media products manager, Andy Ellwood.

Oracle is leading a push for worldwide technical standards to enable users and online services to mix and match courses from different suppliers.

Its campaigning earnestness is reflected in the fact that when it launched its online service its aim was to establish its own Oracle Learning Architecture as the standard. But it is now teaming up with Macromedia, supplier of software products for designing multimedia courses and other systems, to adopt and promote a standard developed by the US Aviation Industry Computer-Based Training Committee. Other suppliers are also looking at this standard.

"We simply want a standard to get established, and we don't care whose it is," Mr Ellwood says. "Then the industry can grow."

RECRUITMENT • By John Kavanagh

Training initiatives to ease the IT skills' crisis

To help retain the services of IT staff, companies need to provide training and re-training facilities

Desperate times call for desperate measures, and worsening IT skills shortages are leading the IT services giant, EDS, to recruit teenagers, IBM to fly students from South Africa to Europe, and *other companies to bring* homeless people off the streets.

The desperation is reflected in new research by IBM Global Services which shows that the UK alone somehow has to find another 250,000 IT specialists in the next five years – increasing the current number by a third. Meanwhile, the US Bureau of Labour Statistics has forecast a need for 750,000 more systems analysts and programmers within 10 years.

In the UK, EDS is looking at almost 30 per cent expansion of 14,000 staff this year by looking beyond its normal graduate recruitment, which alone will account for 700 trainees this year.

In particular, it has introduced an apprenticeship for school leavers. The first 65 people, aged 16 to 20, have joined the company and it expects to take on another 200-250 in the autumn if the scheme is successful.

The teenagers are joining under the UK government's Modern Apprentice scheme, which pays towards the costs. Individuals and employers commit to each other for three years, during which the young people are full-time staff who are helped to work towards a level three National Vocational Qualification, based on training and experience, (there are five qualification levels in all).

"We have an enormous spectrum of work and we've decided we don't need graduates for all of it," says EDS chief executive Alan Stevens. "We've never had such young recruits before but they are enriching the mix of skills and personalities in the company."

The apprentices are training for network and systems support and for programming. Mr Stevens says they will be earning their keep within two months. Each apprentice has a relatively young mentor to help informally, and a more senior assessor.

In addition, EDS is taking on what Mr Stevens calls "retreads": typically, graduates in their 20s who believe they are in the wrong jobs and want to try information technology.

Also for the first time, the company is looking at students from courses which demand a year in industry, and at offering them extra work during holidays.

IBM, too, works closely with some universities on similar initiatives. In addition, the company is joining a scheme devised by South Africa's biggest IT services company, Q Data, under which graduate trainees from that country, already experienced in business work, swap jobs for up to two years with their counterparts in Europe.

Staff training at Reuters' New York office

Q Data Consulting says its proposal not only trains a European company's own graduate intake and gives them experience with clients in South Africa but also fills its skills gaps by providing cheaper skilled contract staff in the interim.

Another graduate training scheme has been set up in the UK by Icom Solutions, which takes on graduates and puts them to work for two years on client projects, again at rates which reflect their experience, and then offers them to the client as trained and experienced employees, as long as the individuals are willing. Icom points out that by that time they know the client company, its systems and its staff.

The growing trend towards IT staff leaving permanent jobs to go freelance – some predictions see the number of contractors in the UK doubling to 100,000 in the next five years – is also bringing out new initiatives. Contract staffing agencies are trying to encourage user companies to sign up to schemes under which an agency trains contractors and offers them at cut rates to an employer willing to give them experience in their new skill.

Such schemes have been boosted recently by support from Microsoft, which has put its name to an initiative that links contract agencies with training firms and provides subsidised training materials. The partners can then arrange to offer cut-price or even free training to contractors.

Elsewhere, homeless people in London are being trained in IT through a charity and are starting to find jobs – they are typically former professional or self-employed people in any case.

A UK IT consultancy, training and recruitment group, CRT, has been overwhelmed with applicants after announcing that it was ready to spend up to £70m over the next five years in training and employing 2,000 people to fill skills shortages; it, too, especially wanted people "historically excluded from IT", aiming at filling half the jobs with women and a fifth with people over 40 years of age.

A common thread in all this is something that many employers still seem to regard as the unspeakable T-word: *training*.

"There is increased investment in training, but it still averages at only around £1,000 a head," says Tony Reeves, chairman of the IT services group, Delphi, which found in its recent survey that IT skills shortages in the UK were costing companies £260,000 a year on average. "It's surprising that although people recognise the costs of the skills shortage, they are only spending a small percentage of these costs on training."

Mr Reeves says the extra costs arise from employers largely concentrating on trying to recruit or buy in experience from a jobs market already short of specialists, rather than training people.

Yet IBM Global Services says such approaches are a false economy. It says training and retraining of both permanent and contract staff is the secret to retaining their services. Its proof is the fact that its overall staff turnover has been no more than two per cent a year during five years of 20 per cent annual business growth.

"The industry is moving so quickly that we are always retraining our staff," says northern Europe director Brian Sellwood.

"We also have more than 2,000 contract staff, and training and retraining these people, too, is unavoidable. There's little evidence that they leave us once they've had the training. They stay to get experience. There's a fair amount of loyalty among people who see this as added value to their own growth."

He adds: "We want to avoid the periodic recruitment blitz. It's much better to focus on career development, retraining and redeployment than on firing and rehiring."

EMPOWERMENT

Building up the skills base

From facing page

are using CD-Rom, self-paced learning courses and the Web alongside the classroom approach," says Mr Kearney.

Software consultant Logica also sees a combination of training methods as the best way to empower employees. "We want to make sure our people get the most appropriate training because the better our skills base, the more value we can deliver to our customers," says Jim McKenna, human resources director at Logica.

"At the same time, there is a personal drive from individuals to gain the new skills and work on the best projects," he adds. "We organise our training programmes so that we have classic training alongside CBT to give us the greatest flexibility."

Advances in CBT and other technologies are making it easier to give power to employees for their own skills development. "Most of all, it gives them the ability to monitor their own development and see how they are progressing," he adds.

However, this employee empowerment goes beyond individual development – it also involves co-operation between individuals. "We encourage our staff to set up *ad hoc* briefings on subjects of interest. These focus groups bring people together and allow them to discuss new technology and business developments for the benefit of everyone in the company," he says.

Mr Straub of IBM also acknowledges the power of co-operation between employees and sees this as one of the keys to maintaining the development of 'corporate learning'.

"I see my role very much as creating a framework for continuous learning within the company. We are, for example, encouraging programmes which come out of a culture of sharing and openness; more experienced employees can act as 'mentors' for the less-experienced – fully supported by Web-based tools.

"In addition, we have tools such as Lotus Learning Space, based on Lotus Notes. This creates the equivalent of a virtual classroom with a tutor and combines the advantages of distance learning with traditional instructor-led teaching. More importantly, it allows us to point 'learners' at other training materials that might be relevant to their skills development," says Mr Straub.

All businesses, he says, will need to look at how IT can help in training – both to maintain the evolution of the 'learning company' and to survive in an increasingly competitive environment.

The days of *ad hoc* training and education are gone, he adds.

"Increasingly, skills development must be tied to business goals for companies to keep their competitive edge. We have to make best use of the technology because you cannot afford to have people away on a three-week classroom course."

Key weapon in the battle to beat traffic congestion

Europe has taken an early lead in transport telematics to help improve transport by road, air, rail and water, reports **Geoffrey Nairn**

FT IT

Transport telematics

Here and on the following pages, FT writers look at transport telematics – new ways of solving transport problems, using computers and telecommunications

Congestion on the M6, near Birmingham. Transport telematics aims to ease these problems *Picture: NTI*

Transport is an emotive subject and policies vary widely around the world, but there is general agreement that information technology can help solve many of today's traffic problems. Transport telematics has thus become one of the fastest growing applications of IT.

The multi-lane freeways of California may seem to have little in common with the streets of central Paris but there is of course a common denominator: traffic congestion. According to the US research company, Frost & Sullivan, congestion in the US has reached an all-time high.

Nine out of every ten Americans travel to work by car contributing to the morning nightmare known as gridlock. As 76 per cent of *the US driving public sits* alone in their cars, only 12 per cent of the working population is using the carpool lane and just 5 per cent is taking public transport.

In Europe, the growth in demand for transport has been met largely by increased use of private cars which now account for 75 per cent of kilometres travelled. Ownership of cars in the EU almost doubled between 1975 and 1995 from 232 to 435 cars per 1,000 people.

The economic cost of traffic delays and accidents is put at Ecu150bn ($163.5bn or £98.1bn) annually – five times what is spent on public transport. Estimates indicate that in some European cities average traffic speeds at peak times are lower than in the days of the horse drawn carriage.

Martin Bangemann, the European Commissioner *responsible for IT: transport telematics has a crucial role*

New solutions are desperately needed to reduce the high levels of accidents, congestion and pollution caused by today's ever-increasing traffic volumes.

Once, the answer was to build more roads but this is no longer an option in many areas simply because there is no space for additional construction.

"The mobility problem cannot be solve simply by building more roads. We in the Netherlands do not have any room," says Annemarie Jorritsma, the country's transport minister.

Even if space is available, new roads are increasingly opposed because of their heavy financial and environmental costs and the short-term fix they provide. Studies indicate that improving infrastructure results in more journeys overall as road users make use of the better facilities.

Transport telematics is the application of computers and telecommunications to solve transport problems. The solutions range from futuristic in-vehicle guidance systems that aim to reduce accidents and improve traffic flows, to novel applications of more established technologies.

An example of the latter is integrated smartcard ticketing that permits passengers to change between different types of public transport and allows the various operators to collect their share of the ticket revenue.

Inevitably, road transport attracts the lion's share of research funding under the transport telematics umbrella, *but policy-makers* are keen to apply IT to other forms of transport that lack the voice of the powerful car lobby.

So, telematics applications are being developed for all transport modes – road, air, rail and water – and their interconnections. This multimodal approach is seen as vital to the development of *integrated transport services* and it promotes public-private partnerships.

Europe took an early lead in transport telematics, and after a decade or more of research, the technology is maturing to the point where the EU considers full-scale deployment of telematics is no longer a dream.

Transport accounts for the largest share of the Ecu922m ($1bn) that the EU is spending on telematics within its Fourth Framework Programme of research and development.

The Ecu222m transport telematics budget is divided into 70 projects, covering applications as diverse as integrated vessel traffic services to improve maritime safety, interoperable mobile radio systems for Europe's railways and anti-collision systems for cars.

A focus for much of the research is finding ways to improve the chronic traffic problems on Europe's roads. "How do you better organise the traffic in European *towns and cities?* The answer has to be transport telematics," says Martin Bangemann, the European Commissioner responsible for IT.

One simple, although highly unpopular solution to traffic jams is to restrict entry to congested cities at busy times. The Netherlands hopes to introduce a road pricing system on its busiest roads in 2001 to cut traffic by 11 to 15 per cent at peak time.

But trials have shown that *far* from encouraging car drivers to switch to public transport, they simply reorganise their day so as to drive in and out of cities at off-peak times. "It's difficult to get them out of their cars," admits Ms Jorritsma.

She says telematics is essential to implement road-pricing and, in particular, *there must be an extensive* data network based on the standard known as Traffic Message Channel over *Radio* Data System (RDS/TMC). "Road-pricing cannot be done without RDS/TMC and we can only employ telematics effectively if such systems are adopted on a large scale."

Data in various languages

The Netherlands will start rolling out its RDS/TMC network this year. RDS/TMC is now seen as an important traffic management tool in many European countries. The technology allows users to receive traffic information in the language they choose wherever they drive in Europe and gives them more immediate access to traffic information.

One trial of RDS/TMC showed 34 per cent of drivers *changed their route following* messages about congestion, and 33 per cent reduced speed when approaching an announced incident area.

RDS/TMC is just one of the tools employed to achieve the ultimate goal for traffic planners: an integrated transport management. Various European cities have been working towards a more integrated approach to transport telematics, *so as to* better *support* a range of city-wide policies for congestion management, traffic and parking control, and *reduce* over-reliance on private cars.

Integrated transport management can deliver significant benefits, according to Vito Mauro, who leads a European research project, Quartet Plus, that has demonstrated this approach in six European cities.

In the project, reductions *in average travel times* as high as 20 per cent have been achieved, and the simple act of prioritising public transport led to improvements in public transport journey times of 15 per cent with no disadvantage to private transport.

"Transport telematics can be used as a substitute for investment in new infrastructure," he says.

Quartet Plus is just one of a growing number of projects that demonstrate the wide-ranging benefits in transport and *traffic that* can be achieved by telematics. But their widespread application ultimately depends on achieving the political consensus needed to reform transport policy.

Telematics in shipping applications: see page 15

EUROPE'S 'PROMISE' PROJECT • By Geoffrey Nairn

How IT helps plan better transport services

New information systems will enable the public to make easier connections and alternative transport choices – and, hopefully, leave the car at home

The inexorable rise of car ownership, once a measure of healthy economic development, has in many cities become a curse. Authorities hope to stem the tide and encourage more people to leave their cars at home using telematics to improve public transport.

The European Union believes a significant shift from private cars to public transport can help achieve its transport policy objectives of reducing urban congestion and pollution.

Telematics applications can help in various ways. They can provide better services for public transport users, such as electronic fare collection, services that more closely match changing demand, interactive trip-*planning kiosks and real*-time information about when the next bus will arrive.

For the operators, technology can help them improve service quality through bus priority systems, advanced vehicle scheduling and control systems. Telematics – using a combination of computer-based and telecommunications technologies – can also be applied at a higher level to co-ordinate and integrate transport using standardised system architectures, data models and interfaces.

Promise is the acronym of one transport telematics project funded by the EU that aims to provide travellers with easy access to real-time information throughout their day and so allow them to make better transport choices and, hopefully, leave their car at home.

The project depends on the GSM cellular network, which is widespread *throughout Europe*.

"The modern GSM phone is not only for voice communication, but it is also a data terminal providing access to a vast source of useful information," says Tommi Ojala, Promise project co-ordinator at Nokia, the Finnish telecoms supplier Nokia.

Nokia is one of the partners in the project which also includes IBM and Philips, car manufacturers Volvo, Renault and BMW, and telecoms operators BT, Telecom Finland, France Telecom and PTT Telecom Netherlands.

Promise will be demonstrated at six trial sites in Finland, Sweden, UK, the Netherlands, France, and Germany during 1998 and over 500 people will test the system. Travellers can access the service using various terminals.

> Early feedback on the 'Promise' project at test sites in six countries is promising

They can use their own personal computers for pre-trip planning at home, or an in-car terminal while on the road and a portable terminal – such as the Nokia Communicator or Philips Velo handheld PC – when waiting for the train or standing at the bus stop.

According to Peter Geen, the Promise project manager at Volvo, research shows that much congestion results from people not choosing the best means, time or route to make their journeys. The Promise project thus aims to increase travel efficiency by giving the people the chance to make better decisions *before and while travelling*, based on information that is updated in real time.

The project also seeks to provide help when unexpected travel problems emerge, such as when an accident blocks a road and without warning creates a serious traffic jam.

In such a case, a driver will be alerted to congestion ahead, allowing him or her to decide to leave the car at the nearest station and continue the journey by train. Timetables can be consulted online from the car and while the user is in the train, he or she can plan the next stage of the journey using a handheld PC with GSM wireless link.

An overriding concern in developing Promise was to design a service that can be accessed from a remote server using affordable standard GSM terminals without requiring large local memory.

This server-based approach contrasts sharply with in-car guidance systems, for example, that require expensive dedicated terminals and CD-Rom *drives to store the digital* maps. The service uses currently available GSM data services, such as GSM data and fax, Short Message Service and Cell Broadcast.

SMS allows the transmission of short enquiry and information messages with a length of a 160 characters. The GSM Cell Broadcast function enables short messages to be broadcast to an area of one or more GSM cells, and this is used for efficient transmission of messages to a selected group of mobile stations in a cell – to distribute traffic-related data for example.

Using the GSM network has the obvious advantage that it is an established and easy-to-use technology but it has its disadvantages, such as relatively low data transfer rate of 9600 bits a second.

"GSM is not really capable of providing information as quickly as we would like," says Mr Geen. "However, there are developments on the horizon to improve the speed."

As well as using GSM, Promise also employs another highly successful *network – the Internet*. The service supports standard Internet protocols and the user interface in the hand held terminal is based on a standard web browser.

Nokia Communicators are being used as the portable terminal during the Promise trials while Nokia has developed a prototype in-vehicle terminal with a positioning device.

Contrary to existing in-car systems, the in-vehicle terminals are not based on onboard navigation or real-time traffic information.

According to Mr Geen, the in-car terminals have been the most problematic. "They will need a lot of further work, particularly on the *user interface*. You cannot compare standing at a bus stop with a Communicator to using one in a car."

He believes the ideal solution to prevent drivers taking their eyes off the road would be to incorporate some form of voice recognition, but such technology is today immature.

The Promise project started at the beginning of 1996 and will last until the end of this year. Although it is too early to draw conclusions, Mr Geen believes that early feedback is promising.

"We have noted a change in people's behaviour," he says. "They will use more public transport because they have more information."

CASE STUDY: Enhanced bus services • By Joia Shillingford

Get there quick on route 66

A global positioning systems pinpoints bus arrival times

People working on the edge of Ipswich, Suffolk, on Britain's east coast, no longer have to spend time hanging around at bus stops. If they work at British Telecom's Martlesham Laboratories they can dial a phone number to obtain the latest bus-arrival information. All they have to do is select the bus stop – for example, the local Tesco supermarket or BT's complex – from a list of interactive voice prompts.

The information is gathered from tracking devices on each bus that interact with the global positioning system navigational satellites that orbit the earth. People living or working in the area can also find out when the next bus is going to arrive by looking on the internet.

Information on when buses are due to arrive is available at many Superoute 66 bus stops, too. The idea behind the system was to make travelling by bus as attractive as possible – to tempt drivers off the congested Woodbridge Road corridor.

This seems to be succeeding. Within this corridor, the number of passengers has increased by 8,000 since January 1995 – an estimated reduction of between 3,300 and 5,000 car-movements a week.

The real-time information system has been in place since January 1995, delivering information to bus stops. But it has only been available on the Internet since January this year, with the phone-based system being added for BT users and their visitors a few months ago.

How the system works

Tracking devices on each bus work out its position to within 100 metres. This data is transmitted by mobile radio to computers at Advanced Communications and Information Systems (ACIS) which produces the 35 bus-stop and two supermarket displays. Information from ACIS is then sent to a server computer at BT Labs for the Internet trial.

Prediction software on the server combines the data with a route description and timetable to produce the current position of the buses on the route. After this it estimates their arrival time at all the other stops along the way. This information is provided on the Internet and updated every 30 seconds.

The predicted arrival times are delivered to the Internet through the use of Microsoft Active Server pages. These pull the latest information off a database, so the Internet surfer always receives current information. Java applets (small applications) are used to make the website more interesting – for example, they are used to move the 'bus icon' along the route map.

Internet users can read the route information in two ways – either as a graphical map or as a text file with the estimated arrival times for each stop. The web pages can also be personalised so that the user only sees arrival times for the bus stops they use.

BT developed the trial system in collaboration with Suffolk County Council. Dennis Sheat, BT manager at the Labs heading the project, says: "The website trial runs to the end of the year. But early feedback shows that usage peaks between 4pm and 6pm when people are thinking about travelling home. This suggests that people are finding it useful. About 25,000 people have accessed the site since January 22."

As well as other passengers, staff at Martlesham benefit from it because the Eastern Counties Buses' route connects BT Laboratories at Martlesham Heath (and Kesgrave) with Ipswich town centre and the railway station. In fact, many of Superoute 66's regular passengers are visitors to the *BT complex*.

Tony Lewis, chairman of Suffolk County Council's Transport Committee, believes that "one of the biggest issues facing us today is how we are going to persuade people to cut down on their use of private cars and the associated problems of pollution and congestion. We see this development as a significant step forward in making public transport more appealing to a wider number of people."

Mr Sheat says that the next step for routes such as 66 is to provide arrival times – not just to the Internet, but also to portable devices such as mobile phones and pagers.

Increasing use of satellite navigation systems

Satellite navigation systems are being used more widely, partly because of the falling cost of the technology for receiving a positioning (latitude and longitude) signal. Global positioning systems for telling boat-users their location, for example, can now be bought for as little as £84.95, *writes Joia Shillingford.*

GPS systems are also being used as part of in-car navigation systems, such as those provided by the Automobile Association. The AA's telematics technology combines GSM mobile communications, satellite positioning systems and digital mapping.

Satellite navigation systems can also be used to improve safety. BT Laboratories in Martlesham has produced a mobile social alarm (codenamed 'Mosa') that takes advantage of GPS.

The alarm is a mobile phone, designed for people such as social workers going into high-risk situations. It has a GPS receiver attached, which constantly monitors the phone's position and stores the location data. *Then, if the user pushes the panic button, the* location information is automatically sent to a call centre, which can send help.

BT also makes use of Inmarsat satellites to track large vessels or trucks around the world. Satellite navigation systems are often used in conjunction with mobile radio for fleet management. A GPS receiver attached to a truck can be very useful if the vehicle is stolen with expensive cargo – such as cigarettes or alcohol – on board.

The Superoute 66 Live web site is at http://travel.labs.bt.com

EUROPEAN RAIL SERVICES • By Geoffrey Nairn

Radical approach to network operations

The Netherlands aims for a total reconstruction of its train planning system from timetable publishing to rolling stock movements

Decades of under-investment and declining interest from the travelling public have left much of Europe's rail network, once the pride of the world, in a poor state.

The political climate has also turned against further extensive public investment in the railways and so rail operators are using IT to improve services and better *exploit their existing* infrastructure.

The Netherlands has a particularly dense rail network with an intensity of rail use that is three times higher than in the rest of Europe – about 16bn 'passenger kilometres' were travelled in 1997. Rotterdam is also Europe's busiest port and 80 per cent of freight is through traffic on its way to Germany and other countries.

All this traffic places heavy demands placed on the rail network of operator Nederlandse Spoorwegen (NS). *New investment* projects have been planned to improve critical parts of the network – such as an Amsterdam-to-Brussels extension for France's TGV high-speed network.

But apart from these showcase projects, the infrastructure as a whole leaves a lot to be desired with signalling systems that are decades old and the quest for greater efficiencies is hindered by antiquated labour-intensive processes and piecemeal investment in technology.

Because of these problems, in 1994, NS decided to look for a private company to buy and run its IT subsidiary leaving the public operator free to concentrate on running trains. In June 1995, the contract was awarded to the Dutch subsidiary of EDS, which claims NS was the *first European railway to* outsource its IT department. "The idea is to bring in IT to better manage the rail operations and so run more trains on the network," says Henk Tijssen, manager for rail operations with EDS in Utrecht.

Railways have a highly *regulated* traffic process in which every movement is carefully planned and published. Traditionally, this time-consuming process would take six months to accomplish with nothing to help the planners *but an old* mainframe.

> IT systems are now being developed by EDS in a contract worth $1bn over 10 years

NS has started a programme to modernise the planning and management systems with the aim of reducing the planning cycle by 50 per cent in 2001.

"NS wanted a total reconstruction of its train planning system from timetable publishing to rolling stock movements," says Mr Tijssen.

A key to achieving greater efficiencies is to integrate traffic control systems so that a train controller can see the whole of the Netherlands on his or her computer screen. Before, controllers sat in local control centres and had just a localised view of the network.

A new main centre has been built in Amsterdam and ultimately, NS wants to reduce the number of control sites from the current 15 to 8 or less, according to Mr Tijssen.

Another benefit of the new system is that changes to the published plan can be communicated to the controllers' screens – *before, such changes had to* be distributed on paper or by phone – and routes can be automatically set to reflect the changes.

The IT systems are being developed by EDS and because of the lengthy nature of the project – the first plans were drawn up ten years ago – it has had to adapt to different generations of computer technology.

For example, the first developments in the late 1980s were designed around Digital Equipment's Vax computers running the VMS operating system. EDS has since started to move to Unix-based systems and, most recently, Windows NT.

The changeover cannot be completed overnight, however. "We have a lot of investment in VMS and do not think Windows NT is yet stable enough for a project of this type," says Mr Tijssen.

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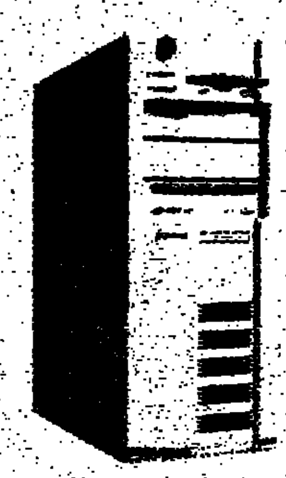

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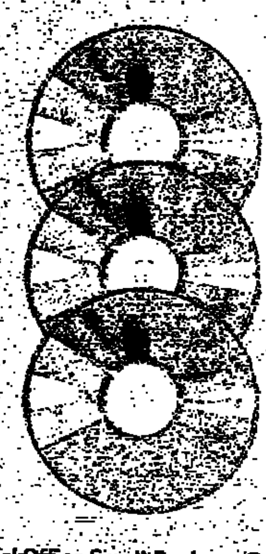

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TRANSPORTATION

Big savings for haulage companies

'GreenTrip' project optimises route planning and also benefits the environment, reports Michael Dempsey

Tollpost-Globe, one of Norway's largest road transportation companies, has recently reduced the distance that many of its drivers cover in Oslo by 25 per cent. The key to this development, with its dramatic cost-savings, lies in computer software that optimises route planning.

For Jorn Kveseth, Tollpost-Globe manager for local pick-up and delivery, the technology itself is irrelevant. "As an end-user, all I know is that it takes information from our administration system, adds all the information about orders and says where and when a driver should pick up and drop off a delivery."

Tollpost-Globe is one partner in a £3.3m European Union-backed programme named 'GreenTrip'. As the name implies, the project's goal – which is reducing the distance covered by road haulage companies in Europe – should benefit the environment. But for Tollpost-Globe, GreenTrip has opened up the prospect of significant cuts in its operating costs.

During a working day in Oslo, its drivers handle 3,000 pick-ups and deliveries. As well as finding the fastest route between stops, Tollpost-Globe wanted the ability to re-route drivers to cope with late orders or sudden changes to the customers' needs.

Each of the vehicles in the GreenTrip initiative is fitted with a small terminal for receiving data on the move. Information is delivered via Mobetex, a radio-based vehicle communication system.

A program from the Norwegian Mapping Authority, known in IT circles as a Geographical Information System or GIS, contains every road and address in the country. Each driver might make 50 stops in a day, so the mapping information is vital.

The software intervenes at the very start of this process. The program, called Dispatcher, from the French software house, Ilog, takes the order data and arrives at a list of addresses containing the shortest possible route between stops.

The process that Dispatcher engages in is called Optimisation, picking information from the electronic list of roads and addresses contained in the GIS. The choice of the Ilog software came via the involvement of Norwegian research foundation Sintef.

Mr Kveseth says he had been looking without success for software that would handle drivers' directions. The search had been futile because Tollpost-Globe lacked intimate industry knowledge. IT was not, of course, the prime concern of a road haulage company.

"We are, of course, just a transportation company – we don't have the network to research these products," he says.

Dispatcher works by a process Ilog which calls "Constraint Programming". Each address fed into the system is recognised as having a specific attribute. Thus, Tollpost-Globe only describes the address to Dispatcher once. The system builds up a library of material relying on algorithms developed by Ilog to link the different attributes together.

Clearly, a vehicle with a capacity of 1,000kg is in a very different category to a small van capable of holding 100kg of goods. The larger transporter is automatically allocated to carry the heavier cargo.

Mobile communications within the vehicle mean fresh orders can be swiftly programmed into it and communicated to the driver during quieter periods in the middle of the day.

The company has also experimented with Global Positioning System equipment in one vehicle, using satellite navigation to pinpoint the exact location of the van. But the frequent communications between its fleet and the Dispatcher workstation at the home-base mean that this technology is redundant.

"With 3,000 orders flowing through Oslo every day, we get a pretty good idea of where the vehicles are," says Mr Kveseth.

Bruno De Backer, Ilog's project manager for Dispatcher, is also working with Pirelli Cable to optimise the resources of its European distribution network. This is driven "by very visible economics," says De Backer. "Typically, 30 per cent of the price of a final product can go into transportation."

At Tollpost-Globe, Mr Kveseth says the Dispatcher-enabled drivers have reduced their daily trips by an average of 200 kilometres.

Tollpost-Globe started using Dispatcher in January 1996. The trial has been confined to 15 vehicles out of the 100-strong fleet in Oslo, but Mr Kveseth now plans to expand the GreenTrip principle.

"Savings of 25 per cent in the distance travelled mean about 10 per cent savings in costs," he says.

A reduction in the size of Tollpost-Globe's fleet is now possible. Mr Kveseth predicts the company will soon be seeing savings of £35,000 a month from a reduced payroll. Tollpost-Globe's annual revenues are £80m, of which some £15m consists of payments to its 450 drivers.

Around half of that sum is paid to drivers in urban areas, where this technology makes good sense.

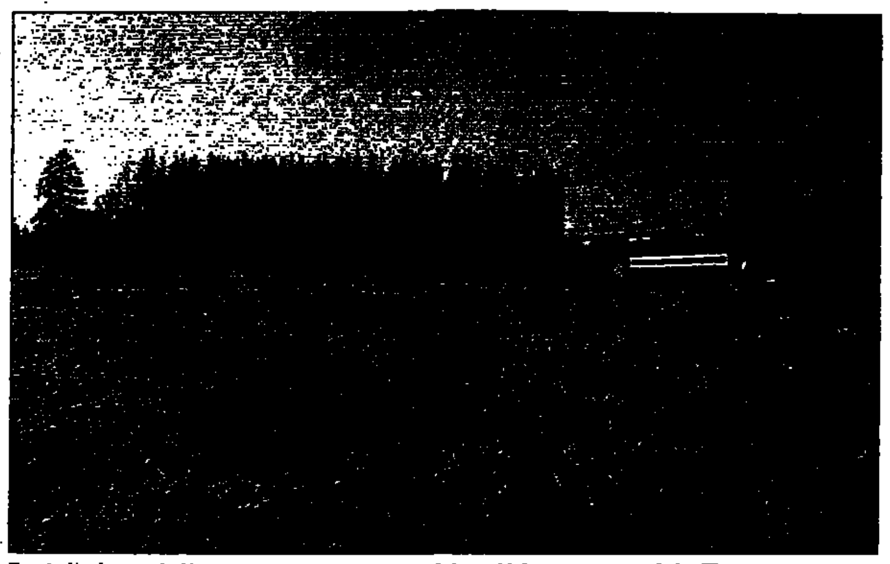
For the rural side of the company's operations Mr Kveseth is less enthusiastic about the benefits of linking sophisticated software running on an office workstation to the driver via mobile data links.

"You don't need an optimisation product, if you're in a valley because you probably know the best route anyway," he says.

For Tollpost-Globe, the marriage of IT and mobile communications will be confined to the urban zone around the Oslo Fijord.

The European Union GreenTrip appears to be answering a difficult question. How does Europe sustain economic growth while paying more attention to the environment?

The imaginative use of technology in a field referred to by some players as Transport Telematics, should provide a compelling reason for businesses to sign up for a green agenda that benefits the bottom line.



Frosty landscape in Norway: one of the Tollpost-Globe vehicles en route to Oslo. IT systems are saving time and money for the distribution company by streamlining route selection

ROAD PRICING • By Mark Vernon

Toll concept is gaining ground

But finding electronic ways of making charges on motorists is proving difficult

The use of road pricing, as an alternative way to charge road users, is well-established in France, Italy, Greece, Spain and Portugal, to say nothing of its extensive use in the US.

The idea of road pricing via advanced electronic tolling has been boosted by a moral imperative arising from the increased significance of green politics.

A report from the UK's Royal Commission on Environment Pollution, advocates a list of actions which are essential to make private transport less damaging and public transport more attractive. And across Europe, road pricing is gaining ground as a better solution than increasing taxes on fuel, the so-called carbon taxes.

Road pricing helps fulfil the political necessity of targeting charges precisely according to usage and distributing the revenues collected to related environmental projects.

Achieving a realisation of this policy would not be possible without technology. It will play a crucial role if practical methods of collecting differentiated charges are to be made cost-effective. And as Neil Kinnock, the European Commissioner responsible for this area of EU policy, commented in a keynote address to the EC Conference on Fair and Efficient Road Pricing last September, "when recent technological advances make such change feasible, it really is time to move on."

However, although there is a general acceptance that the technology is capable, the pilots that have been running across Europe have highlighted important concerns that are blocking widespread roll-out.

Incidentally, within this climate of growing interest, technology is also aiding the spread of the knowledge-base. Mr Kinnock has expressed the need to facilitate a structured information exchange on road pricing by electronic means such as the Citizens' Network database which is being developed for the Internet.

Typically, projects deploy smartcards and remote readers to log motor vehicles as they enter pre-defined cordons in order that drivers might be charged.

The infrastructure has so far tended to be dedicated, say in the form of an overhead gantry on the motorway, but there is also some discussion of using the GSM standard to integrate detection with other networks too, though whether these systems would then be built into cars and/or trucks as standard is open to question.

Ren Bastiaans, head of road transport research, directorate general VII of the EC, has considered a number of test cases that illustrate the stumbling blocks.

The Netherlands' Ministry of Transport has a pilot project in the Amsterdam area; it recorded a rate of misses greater than one vehicle in 100,000, which is not trivial. There was a German field experiment, run two years ago by the Federal Transport Authority, which was deemed by one group of analysts a success, but by another group a failure, because of the types of misses: if a driver is not charged, that might be acceptable, but if the systems gets it wrong, that cannot be allowed to pass.

Neil Kinnock, EU Transport Commissioner: encouraging progress in road pricing by electronic means

This raises the second big issue of political acceptability and the need to hypothecate charges. A pilot in Trondheim, Norway, uses road pricing to encourage alternative modes of transport for getting into the city, explains Mr Bastiaans. This so-called electronic congestion charging is a strategy that makes road pricing acceptable to the public.

The UK's Department of Transport ran a similar model for London, experimenting with a minimum charge of £1 for crossing points that roughly coincide with the North and South Circular Roads. If a scheme can cope with a London pilot, the busiest city in Europe, it could cope with traffic volumes anywhere. But although the detection end of the system was, in theory, up to the task, the problems came with allocating these revenues to public transport and other local purposes.

Overcoming these integration issues keeps the technology costly and complicated to implement. In fact, according to Stephen Glaister, Cassel Reader in Economic Geography at the London School of Economics, "simple, low-tech options have been dismissed too lightly". The simple solution, he says, is the daily-dated piece of paper displayed in the windscreen of a vehicle found within the designated area known as supplementary licensing.

He challenges the assumption that the long term cost-benefits of the low-tech alternative would not perform as well. For example, this route offers flexibility and lower risks when compared to electronic systems. Or, he argues, if low-tech solutions raise complications, such as how to treat car-owners who live within the controlled area, consider how complex electro-mechanic systems would become.

He recommends the London Travelcard, upgraded from its use on the London Underground, as a kind of civic membership card, giving its holder freedom to travel at no extra cost by whichever mode suited his or her particular trip.

Finding a way of charging motorists for the cost of their journeys has exercised the minds of transport experts for more than 30 years. It would seem that there are a few more years to run yet.

TRAFFIC MANAGEMENT/ELECTRONIC TICKETING • By Geoffrey Nairn

Pioneering projects in Paris

The city benefits from a new public-private partnership in traffic management

Parisian motorists stuck in a jam on the notorious Périphérique ring road this morning need little reminding that 80 per cent of French traffic jams are located in the greater Paris area known as Ile-de-France.

But what is perhaps not well known is that traffic congestion cost the French economy a staggering FFr6bn a year. Half of traffic jams are due to unforeseeable situations such as accidents and breakdowns so if drivers could be given up-to-date information on current road conditions it would allow them to choose alternative routes.

This is the thinking behind the Visionaute system which has been operating commercially in the Ile de France since last October and is claimed to be the first such system in a European city.

The service is operated by Mediamobile, a company set up by France Telecom with carmaker Renault and other shareholders. An on-board computer collects real-time information provided by the local traffic authorities using a standard known as Traffic Message Channel over Radio Data System (RDS/TMC).

The information is shown on a small screen on an onboard terminal built in the car dashboard or on a portable unit. Motorists are already used to receiving traffic information via various forms.

The Internet, telephone information services and France's Minitel all provide traffic reports, but they are difficult to consult once on the road and the data becomes quickly obsolete.

Radio reports are another source of traffic information, but such reports are general and do not take the motorist's personal journey into account. In addition, the information is often broadcast too late for the motorist to take an alternative route.

In Paris, drivers on the Périphérique and other main roads have grown accustomed to the large Variable Message Signs (VMS) besides the highway which give them an estimate of drive times to important junctions.

However, these signs are no help if the driver decides to leave the main roads. The Visionaute terminal aims to overcome the disadvantages of the above methods and offer real-time personalised information that is constantly up to date.

"Wherever the motorist is, Visionaute can provide him with traffic information," says Robert Chassang, chief executive officer of Mediamobile.

The system works thanks to thousands of sensors installed by Parisian roads that continually record data on traffic flows; these same sensors also feed the VMS panels. This data is then sent to the control centre operated by Mediamobile and combined with information on accidents, roadworks and street demonstrations.

The centre processes this data using algorithms that calculate the predicted journey times for routes between approximately 200 different points in Paris and Ile-de-France. The driver simply enters his or her start point and destination on the Visionaute terminal and the system proposes three different routes:

- □ The most direct route using main roads.
- □ The route the drive usually takes – it can memorise 14 personal itineraries.
- □ A third option is proposed if the other two routes are congested. The system will alert the driver if an accident or other unexpected development occurs, allowing him or her to change route if necessary.

Easy access

Mediamobile says the system can be quickly consulted on the road – waiting at a red light, for example – and the portable version can be carried around, allowing the driver to plan his or her route before leaving the home or office.

Use of the Visionaute service costs 18 euros a month (equivalent to FFr18) while the portable terminal costs 460 euros. The in-car version, currently only available as an option for the Renault Megane Scenic, costs 460 euros and offers extra features, such as GPS positioning that allows the actual location of the vehicle to be displayed on the digital map.

Mr Chassang says the Visionaute system could be extended nationwide in 1999 and the service expanded to broadcast the location of the nearest chemist or service station and the occupancy levels of car parks, for example.

In time, he sees the system being extended across Europe and discussions are already under way with potential operators in UK, Germany, Italy and the Netherlands. The standard used to broadcast Visionaute is compatible with the pan-European service that several EU countries plan to launch this year on Europe's principal motorways.

Paris is widely considered one of the best examples of transport telematics practice, thanks to its extensive VMS network and, most recently, the Visionaute system which is a showcase demonstration of the benefits of public-private partnership in traffic management – in this case, public bodies provide the traffic information while private companies supply the terminals and operate the service.

The interconnection of the urban and regional traffic control centres is expected to lead to an improvement in co-ordination between road authorities and more extensive use of VMS.

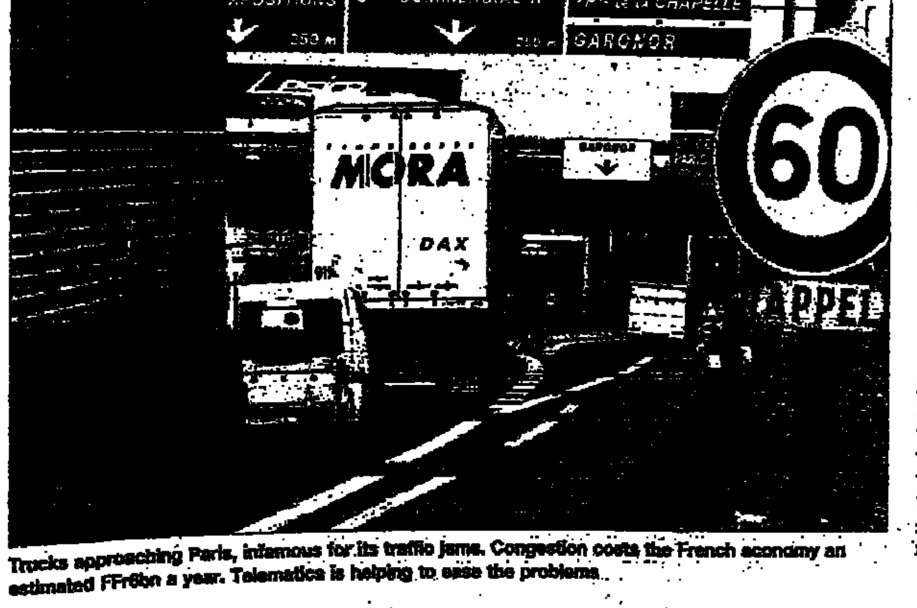
Other transport projects are similarly advanced. For example, within the next three years, the public transport system in the Ile-de-Paris plans to use contactless payment and ticketing systems.

RATP, the Paris mass-transit authority, was one of the first transport authorities to install a magnetic payment system 30 years ago but the familiar green tickets are showing their age and the system must be renewed.

The new electronic ticketing system, based on contactless smartcards, has been under test since 1991 in conjunction with SNCF, the state railway and is open to other operators in the Ile-de-France region. It is now in its final test stage before entering general use.

More than 6m transactions have been performed and the results show that reliability is at least 10 times better than the magnetic green ticket, while the time taken to perform a transaction is 100 milliseconds as against a second for the traditional ticket.

The Paris project forms part of an ambitious pan-European initiative to promote contactless pass technology and apply in different situations. Other cities involved are Lisbon, Venice and Constance in Germany. The aim is to create a universal card that can be used to pay for goods and services as well as transport ticketing.



Trucks approaching Paris, infamous for its traffic jams. Congestion costs the French economy an estimated FFr6bn a year. Telematics is helping to ease the problems

CROSSING THE ALPS • By Joia Shillingford

A Hannibal for our times

Trans-Alpine delays are reduced by traffic management software

Crossing the Alps has never been easy, as Hannibal discovered long ago when he took a group of elephants to fight the Romans. Today, 'Hannibal' is a name that stands for High Altitude Network for the Needs of Integrated Border-Crossing Applications and Links and it's a three-year project to improve trans-Alpine traffic flow.

This European Commission project is designed to reduce congestion and pollution through better traffic management. It began in 1996 and has three parts: the Paris-Lyon-Turin-Milan-Trieste Corridor, the Alps Crossing and the Sestriere demonstration project for the World Skiing Championships.

The aim of the Corridor part of the project is to improve information to drivers on the Paris to Trieste motorway. This is harder than it sounds because there are 12 different motorway operators along the route.

And surprise, surprise: they use a variety of different technologies – some communicate traffic information via radio, others by putting information on overhead digital displays along the route. But not all the displays (known as Variable Message Signs) use the same language or have the same number of letters.

Drivers can usually obtain reasonable information about the part of the route they are on, but not the next part. So the Hannibal team is developing software that will enable one message to be sent out in a form that can be displayed/broadcast on all operators' equipment.

The different operators are not obliged to display each others' information, therefore the project team is helping to set rules for when another operator's newsflash might take precedence. For example, a safety issue such as fog ahead would take precedence over information about a traffic jam.

Working out and agreeing the different priorities is quite a complex task, according to Martial Chevreuil, project director of Hannibal and manager of transport engineering at Egis subsidiary, ISIS, in France.

The Corridor demonstration (trial system) will begin in June and should be ready in time for the soccer World Cup in France. Hannibal is also preparing a 'feed' that can take information from all the operators and broadcast it on a new radio traffic system that will transmit digital data to cars.

The Alps-Crossing part of Hannibal seeks to optimise the allocation of traffic between the two tunnels connecting France and Italy, the Mont-Blanc and Fréjus tunnels.

> The system can be applied to other European road networks

This is particularly important in winter when adverse weather conditions can block a tunnel. The Hannibal team is working with the tunnel operators to agree the criteria for re-routing traffic between them, since they are both toll tunnels and could lose revenue.

"For example," says Mr Chevreuil, "if there is a two-hour delay, traffic could be re-routed from one tunnel to another. But if both tunnels are blocked and there is a four-hour delay, vehicles not even near it yet, need to be warned."

This is because it is much safer for lorries to wait in service-station car parks than on steep alpine roads.

Hannibal has developed software to manage such problems and is building up a library of plans for different situations. "These plans exist on paper, but they are not as manageable," says Mr Chevreuil. The software also provides the traffic authorities with a forecasting tool enabling them to anticipate difficulties and change their plans quickly.

Data from metal strips (or inductive loops) is sent into the software via fixed telecoms lines when cars pass over them. From this data – gathered using telematics – the software can estimate the number of lorries, plus congestion levels, then work out what measures to take.

The Alps-Crossing demonstration project will begin in June and continue through the winter.

The Hannibal project team gained much experience of managing traffic during the 1997 World Skiing Championships which took place in Sestrière in early February last year.

Here, traffic was measured as cars passed over metal strips on the main motorways and access roads into the region. This information was transmitted to a traffic-control centre on the border between France and Italy, near the Fréjus tunnel.

Information was also collected by around 20 police and road-maintenance staff using portable computers linked to Global System for Mobile (GSM) phones. This data, which included details of any tailbacks and their length and any adverse weather conditions (such as black ice), was also transmitted to the control centre.

At the centre, traffic management software from the project's Italian partner, CSST, analysed the data and made recommendations. However, the final decisions on what to do were made by a group of people including police.

Traffic was managed by encouraging drivers to park near Sestrière and travel into the resort on shuttle buses. Shuttle-bus parking software was developed to forecast the traffic expected in each car park and organise the shuttle in real-time.

When one car park was full, drivers would be directed to the next one. Data from the traffic centre was also transmitted to a server computer in Sestrière and combined with other data, such as hotel availability and details of ski races.

This information could be viewed on kiosks around the resort or on an Internet Web site. VIPs were even given Nokia GSM phones-cum-personal-organisers for two or three days at a time to check out the Web site.

"The Sestrière demonstration worked very efficiently," according to Mr Chevreuil. He says: "There were no four-hour traffic jams as there often are during peak times in the Alps, such as French school holidays.

"The first day there was a one or two-kilometre tailback because one of the measures the police had to take had not been fully understood. But after that, there were no further problems. Twenty minutes was about the maximum delay anyone visiting Sestrière for the championships experienced."

Data and software developed for Hannibal should be relevant to other European road networks at a time when new road building is becoming unpopular – though not as unpopular as Hannibal was with the Romans.

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كلمة من الارحل

MOBILE COMMUNICATIONS • By Geoffrey Wheelwright

High tech taxis

Time is saved and customer services are enhanced with digital data links

Taxis are not the type of vehicle you normally associate with high technology, but recent developments in computerised taxi dispatch and management systems are starting to change all that.

The latest in-vehicle mobile data communication systems used by many taxis incorporate digital data communications, global positioning system (GPS) technology and a variety of wireless data transportation options.

They mark a big change from old radio-based systems that could not always be relied-upon to maintain a clearly audible link between driver and dispatch office – and inevitably led to misunderstandings between dispatch and driver that left passengers unimpressed.

The Canadian company, Mobile Data Solutions (MDSI), based in Richmond, British Columbia, has enjoyed considerable success globally with its Advantex-Taxi system. It sends job details and information to taxis or fleet vehicles in a rapid wireless digital format, rather than the traditional voice over radio. The digital system dramatically speeds up job-allocation and 'ride turnover', says the company.

By using MDSI's implementation of GPS technology, the Advantex-Taxi can automatically offer jobs to those taxis that are closest to the customer – leaving the dispatcher free to handle customers' calls.

The Canadian company says its in-vehicle terminals also feature an integral receipt printer and magnetic card swipe to give drivers rapid online authorisation for credit and smartcard payments. The system is also configured with a large display screen capable of displaying both character messages and graphics, which MDSI says will ensure that drivers rapidly receive accurate job details.

Last year, the company signed a $1m deal with Copenhagen-based Amager-Obro Taxis for Advantex-Taxi systems for use in the Danish company's taxi fleet. It is just one of a number of orders won for the system, including an earlier $6m contract with Copenhagen Taxi and a large order from UK-based Radio Taxi of London in 1996.

MDSI, however, is not the only company in this highly competitive sector. UK-based Cognito has also enjoyed success in this market, attracting fleet-management and limousine service companies. Airport limousine company, Tristar Cars, for example, is using Cognito Messager system to improve the quality and capacity of its service.

Tristar Cars works with many of the leading airlines – including Virgin Atlantic, Cathay Pacific and Continental Airlines – to offer first class customers limousine service to and from London Heathrow, Gatwick and Manchester airports.

It operates a fleet of 292 cars, including Saab, Range Rover and Honda Legend cars – and relies heavily on quick communications with drivers to collect passengers quickly and efficiently. Tristar's marketing manager, John Saunders, says that traditional radio-based voice communications were just not up to the job – and the company had to find a better way to communicate with drivers.

"We have found speech to be time-consuming and error-prone when relaying details of jobs to drivers," he explains. "Typically, a phone call would last two minutes, and when you multiply that by 30 jobs, you have already lost a very valuable hour. Multiply that by 180 vehicles and you're wasting money."

The answer came in the form of Cognito Messager, a hand portable 'all-in-one' mobile data terminal that the company says will provide 20 hours use from a single charge.

The Messager is operated through a Qwerty keyboard with function keys for sending and receiving free-text messages and forms, which are displayed on a LCD screen along with battery and signal strength icons.

Mr Saunders says it has made "a huge difference" to his company, allowing dispatchers to handle more calls and largely eliminating the frustration experienced by drivers and customers when orders were garbled during voice communication.

He adds that one of the keys to the success of this system is simplicity for the driver. A number of two-digit codes are all that the driver needs to enter to communicate a variety of messages – drivers type 03 to accept a job, 97 to indicate that they are running late, 53 to indicate that an address is wrong, and so on.

There are also codes to indicate estimated time to drop-off of a passenger. And unlike many technological enhancements, the payback from this system has been fast and quantifiable.

"Using this system, we've almost trebled our capability," he says. "Instead of each booking requiring a two-minute phone call with the drive, by using Cognito Messager, the process of distributing a job can take as little as four seconds."

Using a mobile data terminal to do job distribution can provide a much greater level of detail to drivers regarding customers' requirements, thus enhancing services.

PORT PROJECTS • By Geoffrey Nairn

A boost for maritime safety

Advanced communications technolgies enhance marine traffic management

A strong seafaring tradition has given Norway a particular interest in improving the safety and efficiency of maritime transport. The crowded waterways around Oslo – known as Oslofjord – are thus being used to pioneer new techniques in maritime traffic management using advanced communications technologies known as Vessel Traffic Services (VTS).

The port of Oslo handles 24m tonnes of goods and 8m passengers each year and the fjord is home to several other ports as well as a large oil terminal.

"The consequences of an oil spill or collision would be tremendous," says Christian Hurum, a manager with Norwegian company Kongsberg Norcontrol Systems, which is building the VTS system for Oslofjord.

Experts say an oil spill in the fjord would create severe damage to the environment and cost up to NKr800m (£66m) to clear up. Fortunately, serious collisions are rare, although near-misses are more common – the latest, between a large passenger ferry and a smaller ferry, occurred just months ago.

The Norwegian government decided in 1991 to use VTS technology in Oslofjord and other high-risk areas to reduce the chance of collisions. Marine safety depends on different bodies and this fragmentation has traditionally held back the development of integrated marine traffic management.

For example, the Norwegian Coast Directorate and the Port Authority of Oslo originally decided to develop separate VTS systems for their own needs.

However, they have since changed tack and are now co-ordinating their efforts and developing an integrated system that includes vessel traffic services for coastal monitoring – the task of the Coast Directorate – as well as a port VTS for monitoring movements in Oslo port itself.

The two VTS centres are connected by a 2 megabit communications link. The integrated approach has allowed the two authorities to reduce the cost of the project, put at NKr60m, as well as share sensor data and data processing facilities.

Information is obtained from a range of sensors: high-resolution radar, closed-circuit TV to identify vessels and monitor visibility, VHF direction finders, meteorological sensors and, most recently, transponders to identify vessels using a technology called Automatic Identification System.

Identification of the blips on a VTS radar screen has traditionally been done manually by calling ships on the radio. But in high-traffic areas the radio calls impose quite a burden on the operator, according to Mr Hurum.

AIS overcomes this and works much like the radio transponders that identify aircraft in the sky to air traffic controllers on the ground. It uses the satellite-based Global Positioning System to track vessels and a transponder to relay the ships' 'call signs' to the VTS control centre.

The VTS system uses radar as its primary information source and the radar-derived position of the vessel is then checked against the AIS system to ensure the two positions coincide and identify the vessel.

"The trouble with radar is it can only tell you that there is a vessel in a certain position. It tells you nothing about the vessel," says Mr Hurum, who sees AIS becoming particularly important for ship-to-ship communications, as it will allow vessels to identify themselves to each other.

The integrated VTS system being installed in Oslofjord is designed for AIS, although its use on vessels is unlikely to become mandatory until 2002.

Much more information can be superimposed on the digital maps of the VTS screen. Real-time weather data from meteorological sensors around the fjord can be displayed along with forecasts from the national weather service.

Because of the complex topography of the fjord, current and wind conditions vary considerably between its outer and inner parts, and so the system also displays wave and current forecasts.

An expert system has been developed to allow the effects of an oil spill to be calculated and this data can be displayed on the console.

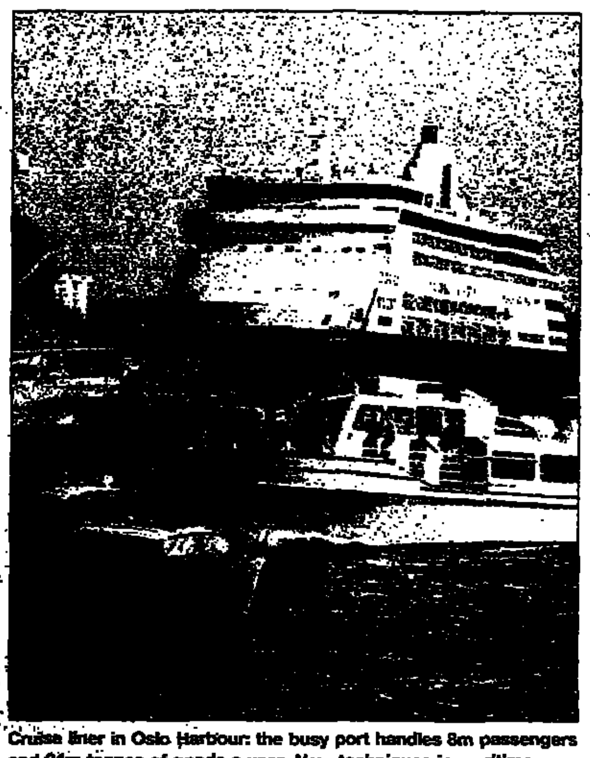
Another application is to publish VTS maps as web pages on the Internet, allowing, for example, sailing enthusiasts to see wave and traffic conditions on their PC screen before they set sail.

The Oslofjord has been included in the pan-European Poseidon project funded by the European Commission. This was started in 1996 to develop standards and an 'interoperability architecture' to ensure different VTS systems work together.

The aim of the exercise is to allow information on a particular ship – such as hazardous cargo information – to be passed between ports when the ship leaves one port on route for another.

Several EU countries are improving their VTS systems but requirements vary widely in each country and the systems are currently incompatible. Poseidon aims to achieve interoperability between these systems at the local, regional and European level through the integration of VTS with advanced vessel communications and tracking technologies.

The Poseidon project also involves ports in Greece, the UK, Spain and Finland. The integrated VTS for Oslofjord is currently being installed and should be operational this summer.



Cruise liner in Oslo Harbour: the busy port handles 8m passengers and 24m tonnes of goods a year. New techniques in maritime traffic management are included in the pan-European Poseidon project, funded by the European Commission. Picture: Tony Andrews

FT IT

The next issue of the FT-IT Review

☐ The main theme of the next issue of the review on Wednesday, June 2, will highlight advances in IT in the retailing sector.

☐ IT in sport: since June is also the month of soccer's World Cup, the review will focus on the increasing role of IT in a wide range of sports, ranging from sports sponsorship to the rapid growth of sporting websites.

☐ A third section, on managing information, will focus on 50 years of IT, as June marks the 50th anniversary of the first computer to run with its own program, stored in memory. What will the next decade bring?

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INTERVIEW • Geoffrey Nairn meets Mitchell Kertzman, chief executive of Sybase

Better prepared for battles ahead

Sybase is aiming to break out of traditional software product areas and move into faster-growing markets

It is a source of constant frustration to Mitchell Kertzman, chairman and chief executive officer of Sybase, that his company remains typecast as a relational database company despite his repeated attempts to present Sybase as a more broadly-based business.

"I do not believe that there is a database industry anymore and I certainly do not think of ourselves as a database company," he says, preferring to paint Sybase as a vendor of enterprise software and development tools.

Sybase, along with rivals Oracle and Informix, helped found the relational database industry in the 1980s and their products underpin most business IT systems. But what was once a booming market today looks a lot less attractive and disappointing recent results from these three companies hint at an industry-wide slowdown in sales.

For the first quarter of Sybase's current financial year, revenues from software licences dropped dramatically 24 per cent to $96m compared with $127m a year earlier. Thanks to its services business, which grew slightly, the fall in total revenues was contained to 11 per cent.

"The whole industry is under a cloud," says Mr Kertzman, who claims many potential customers are postponing investment in new IT systems because of the challenges of adapting existing systems to handle the Year 2000 and single European currency.

However, analysts say sluggish market conditions do not fully explain Sybase's disastrous financial results. Last month, it surprised Wall Street with a first-quarter net loss of $81m including a hefty restructuring charge of $52m.

Investors had only just recovered from Sybase's previous bombshell, dropped in January, when it revealed it had incurred big loses on improper contracts from its Japanese operation. Five salesmen had booked revenue from contracts before the products were shipped to end users, thus violating company policy. Sybase had to restate its results for the previous nine months.

"The fault is partly that [database] companies are driven to produce abnormally high rates of growth and these are now harder to come by," says Mr Kertzman. "We did a thorough investigation and found the problem did not exist anywhere else or in prior years. We do not think there is any systemic risk."

The news was a big blow to Mr Kertzman as he had spent 1997 painstakingly putting Sybase on the road to recovery. At the end of 1997, after three consecutive profitable quarters, the company looked to have turned the corner, finally shaking off the "struggling" epitaph that dogged it during 1996.

Mr Kertzman took control of Sybase in July of that year following the merger of Sybase, originally just a database vendor, with Powersoft, a fast-growing software tools company that he helped found in 1974.

Powersoft rode to fame on the back of its best-selling PowerBuilder product, which has become a standard for building client/server environments. However, PowerBuilder and similar proprietary tools could soon be eclipsed by the Java programming language, which promises to revolutionise software development with a radically different "component" approach.

"A component approach to software development should bring two important advantages: higher quality and greater productivity through re-usability," he says.

Java is one way of implementing the component model, in which large programs are assembled from smaller "components". These have been previously tested and so offer known quality and performance, allowing developers to avoid many of the headaches of software which is built from scratch.

Sybase has been quick to embrace Java and has a growing range of products based on the new language. But Mr Kertzman does not believes Java will make existing development methods obsolete overnight. In particular, he believes PowerBuilder can coexist with Java. "PowerBuilder components will be one type of component and Java will be another," he says.

In addition, he believes Java is still too immature. "If a bank were to ask me whether to switch to Java, I would say 'no' ". The slow performance of Java is one problem; another is the battle between Microsoft and Sun over Java's future direction.

"I think customers are confused by the battle and so they are waiting to see how it all turns out before committing to Java," says Mr Kertzman, who sits on the fence in the debate over whether Java-based network computers or traditional PCs will dominate corporate desktops in the future.

"Unlike some, we do not think that PCs are evil and we also support Java and NCs," he says.

Today, database software accounts for around 70 per cent and tools just 30 per cent of Sybase's licence revenues, which make up around 50 per cent of the company's turnover. The other half comes from services. Mr Kertzman would like to increase the revenue share from licences to around 60 per cent – a difficult task given Sybase's current slump in licence revenue.

Poor financial performance has dogged Sybase's recent history and analysts say the weakened company makes an easy acquisition target. But no potential buyer has surfaced to date and Mr Kertzman believes the company must find its own salvation by identifying fast-growing new market opportunities and reducing its dependence on traditional products.

New types of software, such as "component servers" and "middleware" are poised to play an increasingly important role in enterprise computing and encroach on the functions traditionally performed by the relational database products of Sybase, as well as Oracle and Informix.

These vendors are responding by transforming their traditional products into "universal" databases that can store a richer variety of information and perform more functions.

For example, the latest release of Sybase's core database product, Adaptive Server, is designed to link with enterprise resource planning (ERP) software from vendors such as Peoplesoft or Baan, so allowing Sybase to challenge Oracle's traditional dominance of the ERP database market. Mr Kertzman also talks enthusiastically about a version of Adaptive Server designed for Microsoft's Windows CE operating system, which is used in mobile consumer products such as hand held computers. "Even Microsoft does not have this," he boasts.

Kertzman: a determined optimist, despite recent setbacks

With these and other developments, Mr Kertzman claims Sybase is better prepared for harder times ahead and he quotes a recent contract win requiring Sybase to link several proprietary databases running on a range of hardware. "The interesting thing is that we didn't sell them any Sybase database software," he says.

The company's future will increasingly lie in this type of work, he believes, as Sybase can no longer rely on the steady stream of database licence revenues it once enjoyed. "Before, a Sybase salesman would not make any money unless he sold a database, but that has now changed," he says.